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THE MAGAZINE FOR FLEET OPERATORS

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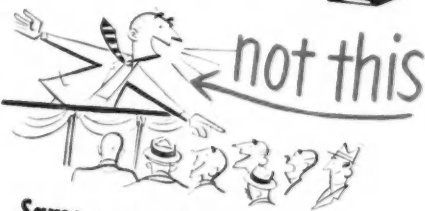
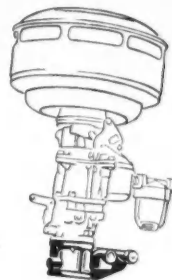
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of governor.

this →



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COMMERCIAL CAR JOURNAL

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JOURNAL

— CCj —

READER DIGEST

Should We Overhaul Our Transportation Policy?

There are two general schools of thought as to how the current problems within the transportation industry—particularly between the railroads and the truck and bus groups—may be solved. One group says that the industry is large enough to rate representation in the President's Cabinet and its own judiciary and regulatory commission. The other says that, with some minor adjustments, our present national transportation policy and existing but improved regulatory bodies can do the best job. What do you think? See Page 51.

Garrett's Safety Cuts Insurance Bill \$60,000

A simple but thorough and vigorously applied safety campaign has paid off in Garrett Freightlines in many ways, not the least of which has been an annual slicing of insurance premiums to the tune of \$60,000. Lower maintenance costs, fewer interruptions in local and line delivery schedules, less driver time loss, are a few of the other advantages of this safety program which can be divided into five parts. For full details, see Page 52.

East St. Louis Licks Daily Service Problems

A seemingly simple job of adding oil to an engine can be a problem if done outdoors under adverse weather conditions. At East St. Louis City Lines, this problem has been licked by the use of a shop-made high pressure dispenser, for summer use, and infra-red heating, for winter use. Other seasonal daily service problems have been solved in a similarly simple but effective manner. See Page 54.

Small Laundry Rinses Out High PM Costs

Beamed at the smaller truck operator, this story on a laundry fleet shows how careful vehicle selection, custom-tailored PM, and a few maintenance short cuts can "iron out" some of today's high operating costs. See Page 64.

Parts Inspection Pays in Three Ways

Tearing down a newly overhauled engine is expensive—in shop time, in vehicle lost time and in employee morale. That's why magnetic particle inspection of critical parts before they are rebuilt and before they are replaced saves you money. See what can happen to your crankshafts, rods, blocks and axle shafts, to produce early road failures. See Page 72.



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More Miles Between Overhauls

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Lubricants and Fuels

FOR THE TRUCKING INDUSTRY

CONFERENCE C O R N E R

PRESENTING FACTORY ENGINEERS' VIEWS ON TIMELY SUBJECTS OF INTEREST TO FLEETS

Subject: Front end vibration

Question: What is its effect on wear?

An eye opening fact for fleet operators was brought to light recently when 100 dual wheel assemblies were tested and found to average 8 lb and 12 oz out of balance. It has been the contention of most people in the trade that a few ounces off balance in a truck or bus wheel would not affect its operation. But when pounds are involved, it's quite a different story.

A 10 lb off balance condition creates a 946.6-lb blow at every revolution of a 750-20 single wheel at 50 miles per hour. This stress and strain not only wears out tires, but chips and breaks axle and wheel bearings, splines, ring gears, pinions, drive shafts, and transmission parts.

The bounce of this thrust reflects itself in vibration throughout the body of the vehicle, not only at the fundamental frequency of the wheel rotation, but in many harmonics of this frequency, creating a tremendous vibration as the vehicle rolls down the highway.

Vibration is one of the chief causes of wear, crystallization, and physical breakdown of supposedly solid materials. And it is not always wear that causes a part to break. Many times a part showing no visible wear will apparently fall apart. That phenomenon is now easily explained. For it has been discovered that all metal objects resonate at one or more given fundamental frequencies, or fractions called harmonics. At these resonating points, the electronic molecular structure actually changes from positive to negative, back and forth with each vibra-

tion, within the part itself. The speed of these tiny molecules shifting with a given frequency generates heat within that part, causing crystallization and complete breakdown. (Metallurgists are now using the same principal to heat treat machine parts, tools and dies. By controlling the internal friction in this manner they have better control of the crystallization.)

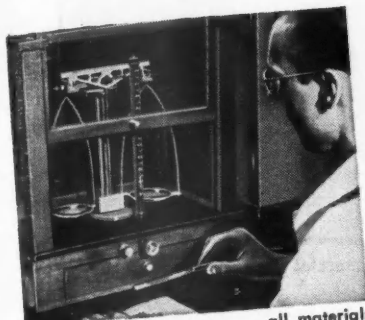
We are all familiar with the age-old fact that a vibration from a particular musical note shatters solid plate glass. Here again is proof that vibration is extremely powerful.

It is assumed by most over-the-road operators that a heavy load on a rough-riding truck cures the vibration trouble. The exact opposite is true. It stands to reason a 1000-lb blow on a wheel would easily vibrate an empty truck or bus. Loading the vehicle in no way eliminates this thrust, but merely squeezes it between the loaded body and the highway surface. The load increases the strain on all parts connected with the out-of-balance wheel in the exact ratio of the portion of load the wheel carries. The blow load on the highway surface is increased from a 1000-lb blow on a truck loaded with 30,000 lb. Think what a 30-lb off-balance condition would do.

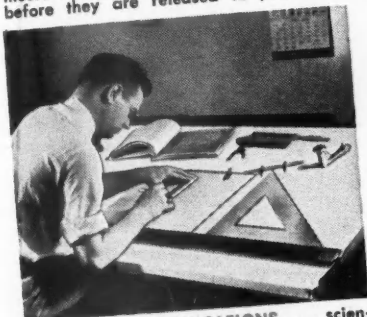
It might be to the operators benefit to investigate these facts as a method of reducing cargo breakage, truck maintenance and to discourage the ever growing demand for additional over-the-road taxes based upon total tonnage per mile.



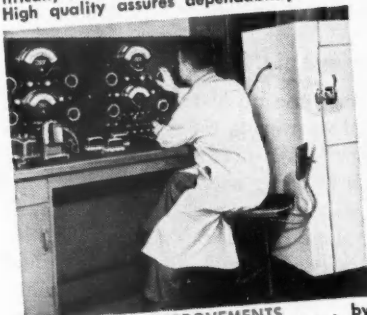
Trucks deliver pipes to the site of Illinois - Texas natural gas line at the rate of five pipes per load, over varying terrain.) The pipe line will be 1800 miles long, with every inch of pipe trucked from the nearest railhead by the fleet of Midwest Constructors, Tulsa, Okla.



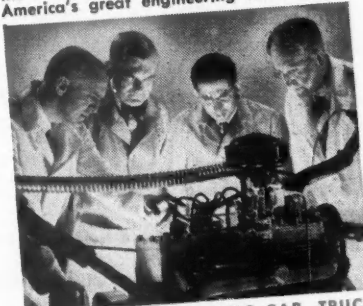
RAW MATERIAL TESTS . . . all materials must measure up to predetermined standards before they are released to production.



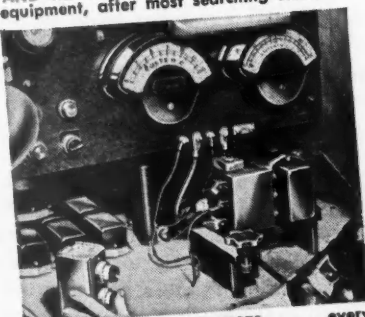
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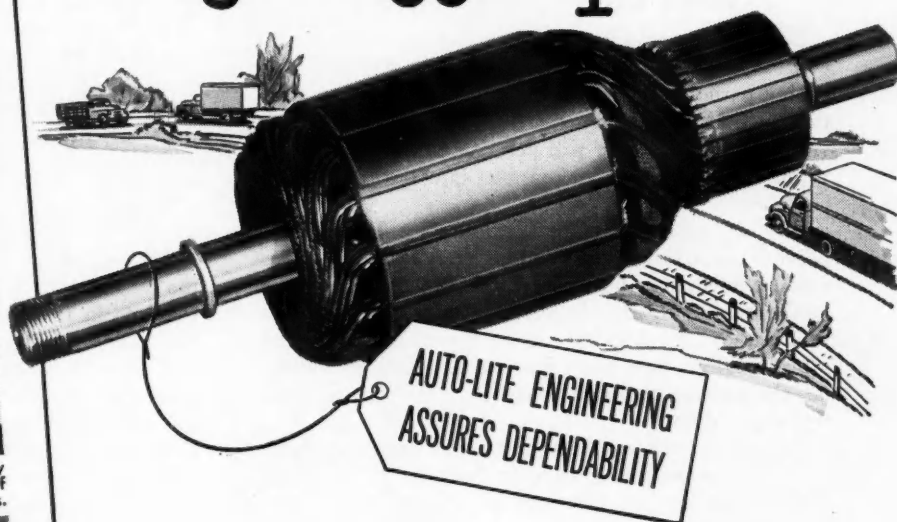


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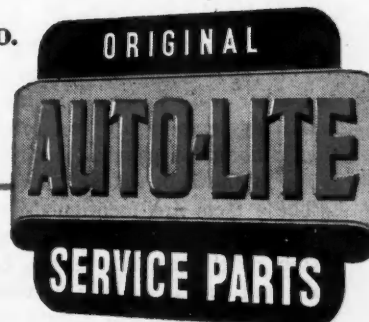
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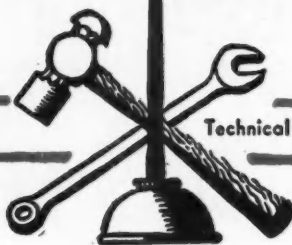


Money Cannot Buy
Better Automotive
Electrical Equipment

At Your Service

By M. K. SIMKINS

Technical Editor, Commercial Car Journal



Valves Contribute to Oil Hogs

Sometimes overlooked as a possible cause of high oil consumption is the matter of valve timing. Late valve timing permits the intake to stay closed too long after the suction stroke has started. The resultant high vacuum in the cylinder will permit a drawing out of oil vapors past the rings and pistons into the combustion chamber.

Another condition contributing to oil loss at this point is worn valve stems and/or guides. With a poor seal here engine vacuum draws oil vapors into the intake manifold and into the combustion chamber where they are burned. It is especially important after installing new rings that valve guides and stems be checked as the new rings increase vacuum and this vapor draw.

Failure to replace these parts may result in more oil consumption rate than ever due to this wear and also due to the fact that gum or deposits which may have produced a seal between valve stems and guides was removed during the engine overhaul. This is particularly true on overhead valve engines.

Corrosion and Fingerprints

A light fingerprint on a carefully-machined piece of metal can damage the part irreparably in just 24 hours, according to Socony-Vacuum Oil Co. Company scientists are tackling the problem with intensive development work on "slushing" oils to neutralize or remove the fingerprints before they cause damage. Synthetic perspiration is used to measure the rates of corrosion in different metals and to test the efficiency of the slushing compounds. It has been found that the corrosive properties of fingerprints can vary from day to day according to the individual's metabolic and other body processes. Other factors include normal body temperature and rates of flow of perspiration, amount of physical activity, and the number of pores in the skin of the thumb and fingers.

These facts are mentioned here for one purpose—to emphasize the importance of proper care of pistons, piston rings, bearings, gears, ball bearings, cylinder walls and cutting tools in fleet shops. Most mechanics realize the deleterious effects of handling such parts before they are properly coated with oil, but far too many times you can see such parts and assemblies

lying on work benches unprotected from curious hands as well as from the dust in the shop. Just assume that dirty hands, clean hands—any hands—can initiate a corrosion that may show up later in engine wear. Oil all parts immediately after cleaning and cover them with clean rags or wrap them in paper.

Tune Up Instruments Deserve Respect

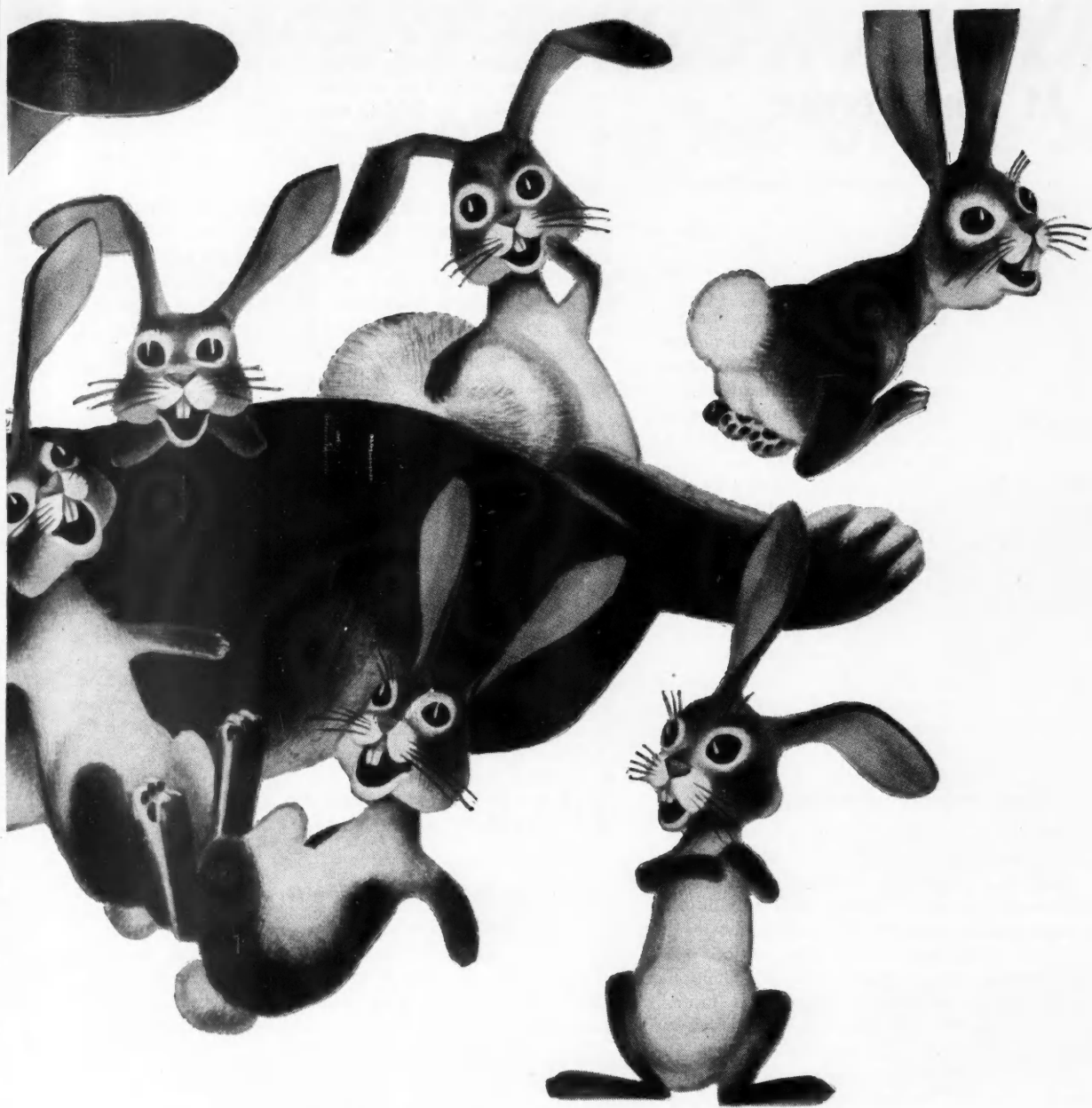
Are you giving your tune up instruments and gages the respect they need to provide the accurate readings required in your work? We note that in a few shops the engine test stand is being used for a work bench, and other sensitive instruments are slammed away in dusty corners under a pile of cleaning rags and what not. A volt-ammeter won't work long under these conditions. Dust, dirt, paint spray fumes, and vibration are enemies of precision testing and diagnosing equipment. Rust and corrosion on leads or terminals, frayed wiring, bent cabinets indicate lack of interest in accurate work on the part of the user. And this will show up in poor adjustments and later engine troubles. Take another look at your testing equipment. Keep it in good shape—and keep your maintenance costs down.

Cylinder Finish Important in Ring Life

Proper cylinder finish is one of the most important factors in controlling oil consumption, according to Perfect Circle engineers. Proper seating of rings, requires that some initial wear takes place in rings or cylinder walls or both. A smooth, hard cylinder wall will not permit proper seating of new rings, and of course a wall that is too rough produces early wear of the face of the rings, loss in ring tension and premature failures.

Most manufacturers prefer a cylinder finish having from 15 to 30 micro inches and a good cross-hatch pattern. The condition and the hardness of the cylinder walls will be determining factors in choice of a hone. In order to obtain the cross hatching the hone should be moved up and down rapidly so that the lines intersect at about 60 degrees. Horizontal or concentric scratches do not permit proper oil seal and result in lower ring mileages.

(TURN TO PAGE 14, PLEASE)



Here's Practical Help for Fleet Operators . . .

Socony-Vacuum gives you . . .

- Help on maintenance problems.
- Individual, tested lubrication schedules.
- Advice on correct application of lubricants, proper handling and storing.
- One source of supply—available everywhere.
- Simplified inventory—with . . .

1. **DELVAC OILS**—for all gasoline and automotive-Diesel engines.
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for Fleet Operators

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MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION**

COMMERCIAL CAR JOURNAL, August, 1951

At Your Service

Continued from Page 10

Abrasives from the honing operation are one of the most common causes of early cylinder and piston ring failures, and special care must be taken to keep out such foreign particles—or remove them after the operation. Clean dry rags or paper dampened with water should be packed at the bottom of the cylinder bores to prevent abrasives from getting into the crankcase area. Hard carbon deposits should be removed and cylinders should be wiped clean before the hone is attached. After each setting the hone should be wiped clean, and after the operation the walls should be swabbed with a light engine oil. Use of solvents to clean the cylinders will not remove the grit from the walls, according to Perfect Circle. Here's a way to tell whether the surfaces are clean after the honing operation. Run a white cotton cloth down the wall, and if it shows any evidence of soilage, the surfaces should be cleaned again.

Diesel Injector Service

Small fleets or fleets with a small percentage of diesel engines sometimes experience difficulty in training specialists to repair injection equipment. Skilled personnel, precision testing and rebuilding machines and clean working conditions are most essential. Dealers, of course, provide this service, but in an effort to satisfy an apparent need for reduction in the cost of repairs or rebuilt replacement units, the Hancock Machine Co. of Ohio has established a special diesel division and has conceived the idea of operating a mail order exchange service to cover the entire country. Thus re-worked injection equipment is supplied in exchange for faulty units to owners as well as to dealers.

The firm has taken steps for mass production of reconditioned equipment and has set up top quality grinding, lapping and honing machine tools. Modern air and electric gages are used to measure the close tolerances required. At present tooling and inventory has been set up only for the repair of two types of GM unit injectors.

Make Your Battery Shop Safe

The battery shop is a frequent source of accidents—needless accidents because the hazards are well known and safety measures are simple. Damage to the eyes probably ranks first on the list of causes of lost time. Slipping and falling, acid burns and explosions take their toll of the unwary mechanic. Warning signs, or system of safety measures set up in large type in the battery room should cut down these types of accidents.

Men should wear goggles, rubber aprons and possibly gloves when working in the battery shop. Since there is always some spillage of water and the pos-

sibility of oil-covered floors, wood slat floor boards should be provided to prevent slipping and also to protect against electric shock.

The room should be well ventilated and the charging rate should be held to manufacturers' recommendations to preclude the formation of excessive hydrogen. Smoking should not be permitted around the charger.

In handling the batteries care should be taken to prevent short circuits across the terminals. Lifting devices and hand trucks should be used to lessen the danger of physical injury while lifting and carrying them. And finally, remember to keep acid stored in cool places away from the direct rays of the sun. When mixing solutions, see that your men pour the acid into the water, rather than the water into the acid.

"Hot" Tires Show Their Wear Patterns

Here's a new one for the tire men. Goodrich Research Center reports that radioactive materials are being used in special tires by rubber research scientists to determine tread wear. The method provides instantaneous data and enables researchers to evaluate such factors as the type of road surface and temperature, speed, tire pressure and transmission of power on tread wear.

Radioactive phosphorus is mixed into the compound for the top layer of the tread and a Geiger counter mounted on a small cart scans the track made by the radioactive tire. In addition a sheet metal air scoop is mounted behind the tire to scoop up the rubber blown into the air and the radioactivity of the particles is later measured in the laboratory.

All-Temperature Grease

The Army is trying out a new grease that performs equally as well in tropic heat or in Arctic cold. Adopted for use on all Army vehicles and artillery pieces the all-temperature grease is expected to simplify the supply problem by replacing at least six different greases.

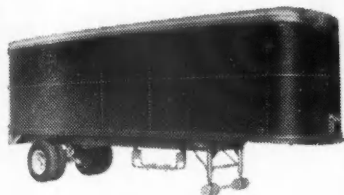
Ears to Ground Department

A new theory that may improve body finishes by explaining why paints lose luster with age has been offered by Ralph J. Wirshing, of the chemistry department of General Motors. Research he says, confirms the fact that moisture has an important effect on dulling paint films. In a report on this development he said that auto finishes on sample panels exposed in dry Chilean sunshine showed scarcely any dullness or "chalking," while similar panels exposed for the same length of time in the more moist Florida air grew dull in luster.

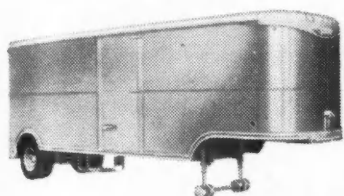
It was formerly thought that some lacquer and enamel materials combined chemically with air to form a dull, misty film over the auto finish similar to the way rust coats iron. However, under certain conditions hydrogen peroxide reverses its usual behavior and acts as a reducing agent, making oxygen withdraw from a material rather than combine with it. By setting up these "certain conditions" Mr. Wirshing was able to produce dull and chalky surfaces rapidly. This prompts a new chemical theory, it is said—that a reducing action, not oxidation, causes finishes to deteriorate.

TRAILMOBILE BUILDS A FULL LINE

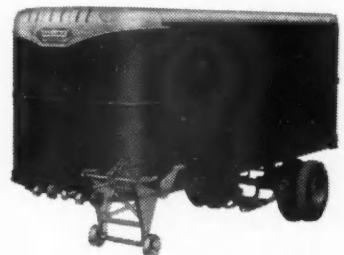
—Has the Right Trailer for the Job



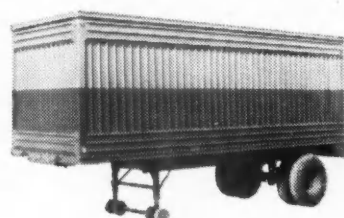
All Steel Dry Freight Van



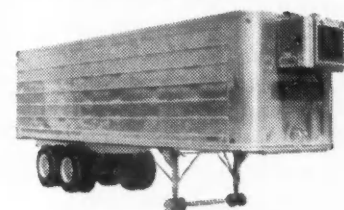
Drop Frame Van



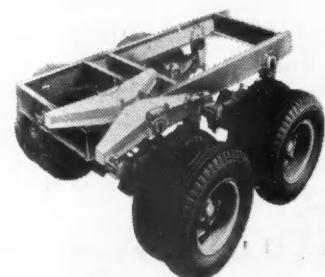
Complete Automatic Coupler Van



Corrugated City Delivery Van



Aluminum Refrigerator Van

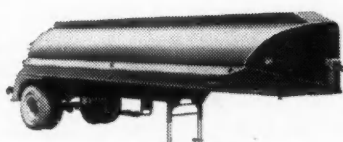


Trailmobile Tandem—
Only two Moving Parts

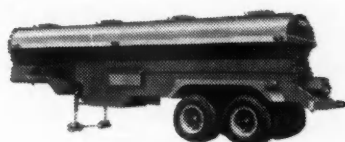
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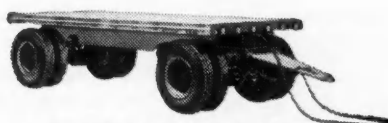
Tank Trailers for Liquids of All Kinds



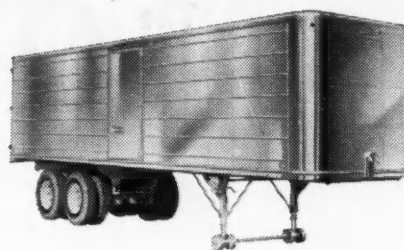
Bulk Cement Trailer



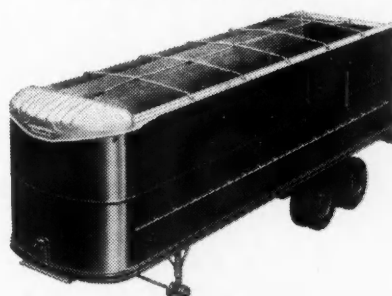
Platform Trailer



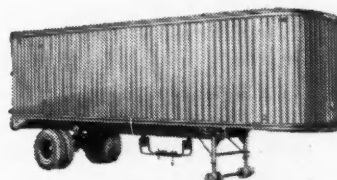
Four-Wheel Platform Trailer



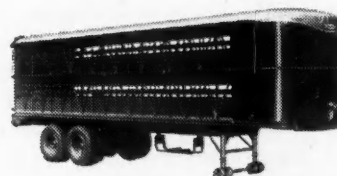
Aluminum Dry Freight Van



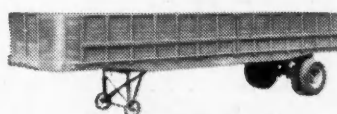
Open Top Van



Corrugated Dry Freight Van



Deluxe Cattle Rack



Lightweight Grain Rack



Drop-Frame Interchangeable
Chassis for Special Body Types



Friendly dependable Service
from Coast to Coast

THE TREND IS TO
TRAILMOBILE

TRAILMOBILE INC.

CINCINNATI 9, OHIO
BERKELEY 2, CALIF.

The OVERLOAD

E D I T O R I A L C O M M E N T

Oil Fuels Presidential Letters as Well as Motor Vehicles

EVERY fleetman knows that oil is just about his most valuable raw material. Hence the general widespread interest in the current shenanigans going on in Iran.

Most fleetmen also know that COMMERCIAL CAR JOURNAL, being one of the industry's strictly working tools, habitually keeps its nose out of politics.

But for every rule there come exceptions. Iran is such. We can take no official quarrel with the desire of the Iranian government to nationalize oil if its collective conscience permits such action. That's its own business. Naturally we have no quarrel with the British desire to hold onto the vast monetary and technical interests it has poured into the development of its vast Anglo-Iranian Oil Co.

Where we do find real trouble brewing is in a letter from President Truman to Prime Minister Mossadegh of Iran, made public late in July. It said, in part:

"You know of our *sympathetic interest* in this country in Iran's desire to control its natural resources. . . . From this point of view *we were happy* to see that the British Government has on its part accepted the principle of nationalization. . . . I had hoped, and still hope, that ways could be found *to recognize the principle of nationalization* and British interests to the benefit of both."

If Mr. Truman's words held any meaning at all, it was that he believed it was quite all right—indeed something to be happy about—for the Iranians to swipe the British holdings in their country. Whether this interpretation reflects official thinking or not, it jibes with Prime Minister Mossadegh's reaction. For

in his prompt reply to Mr. Truman the Prime Minister expressed thanks for the President's warm indorsement of the nationalization of the oil properties and "for the care you have taken *in the welfare of this country*." Parenthetically he pointed out that the British had *not* accepted the "Principle of nationalization" (even though a large part of Anglo-Iranian is owned by the British Government).

In all fairness, it should be added that Mr. Truman obviously was trying to make his letter sound conciliatory in a genuine effort to act as a would-be go-between in the Iranian dispute. But how-in-the-name-of-heaven conciliatory can you get?

Must our President go to the ends of telling the world including Saudi Arabia, Kuwait and Venezuela (all of which have *American* oil interests) that nationalization—or more accurately, expropriation—is a fine idea?

Does Mr. Truman also imply that nationalized oil in America is a fine idea? No, he doesn't say so. But a statement to that effect tomorrow would make just as much sense as his statement on Iran today.

Oil, indeed, is one of our most priceless assets. Let's not bungle it out of the hands of private industry, where it has bested the rest of the world by more than double, into the hands of Government.

Already the oil industry is much concerned about our President's remarks. Unless we miss our guess, fleetmen won't be far behind. When Mr. Truman said, "We were happy," we trust he was using the editorial "we". Most assuredly it did not include the thoughts of thinking Americans.

Bart Rawson
Editor

DETROIT DISPATCH

by LEN WESTRATE Detroit News Editor

Truck Production Horizon Clears

After all the confusion and kicking around of the truck manufacturing program, it now appears that 1951 will be a pretty good year from the production standpoint. At the moment, no one is quite certain about what the fourth quarter will bring, but it seems likely that about 335,000 trucks will be built in the present quarter. That number added to the record 788,000 for the first half will bring nine month's production to about 1 million units. A conservative estimate would indicate at least 200,000 in the last three months so that the year's total could be between 1.2 and 1.3 million. Currently, the industry is operating under materials allocations, but since the effects of CMP will not be felt until September, there will be a period of scrambling for materials. There already is a pinch in certain axles caused by the shortage of alloy steels, and it probably will be the supply of a few critical metals, rather than an overall shortage, that will govern production.

With No Shortage Forecast

If truck production continues at anything like the present rate, there will be no shortage of trucks this year. Truck sales are not as rushing as they were a few months ago, but they are still good. The biggest drag is in light models of one-half through one ton. According to Polk figures, new truck registrations in May were more than 90,000, about 6,000 higher than in April and the highest of any month since last October.

Trucks May Have Automatic Drive

Development of a practical automatic drive for Army 6x6, 2½ ton trucks to be built by GMC may be long step forward in providing such a unit for commercial trucks. (See page 96) The unit is a beefed-up Hydra-Matic drive with a step-up gear box behind it. The possibility that such a device may be offered commercially before too long probably depends on availability of materials and manufacturing costs. Also, one manufacturer presently is planning to offer an automatic drive on parcel delivery models later this year.

Reo's F Model Now Available

Reo is shipping its new F Model trucks which were announced several months ago. They were late getting into production because of difficulty in getting a pricing authorization from OPS. The E Models are

no longer being produced. The action actually is in effect a price cut, since the F Models will sell at the same list prices charged for the previous E Model, but contain many improvements. These include such items as synchromesh transmissions on some models, heavier front axles, more studs per wheel, heavier springs, and other improvements.

GM Hints at Diesel Changes

GMC will offer some interesting features in its new line of Diesel truck engines to be announced late this month. Details are still confidential, but we can say that some interesting developments are included, particularly in the fuel system.

Overhead Valve Trend Not Industry-Wide

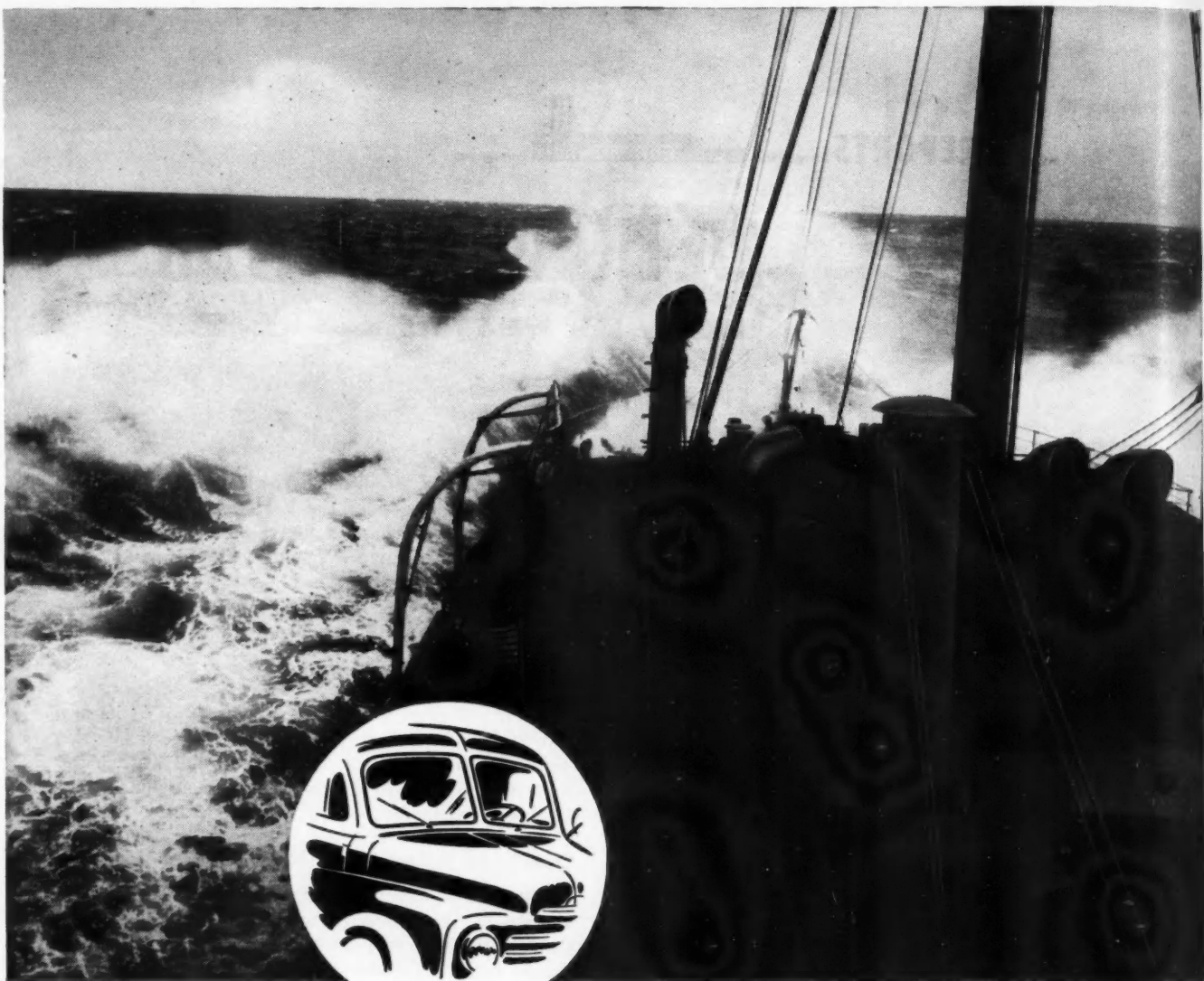
With the definite trend toward V-8 overhead valve engines in the passenger car field well established, there is considerable speculation that the truck industry may do likewise. Such a development is much more likely among manufacturers who build both passenger cars and trucks using essentially the same engine, because of the inherent advantages in tooling costs spread over a large volume. For strictly truck builders, however, the problem is a much more difficult one because of the high cost of tooling for a V-8, and there probably won't be much of a move in that direction for quite a while, or at least not until compression ratios go much higher than they are now.

Use of Aluminum In Engines On Increase

The tremendous expansion in the aluminum industry (production to be doubled by the end of 1953) may result eventually in a lower weight-horsepower ratio in trucks. With a high volume of production of aluminum and much more experience with it in fabrication, it may be used much more extensively in truck engines, chassis, and bodies when the heavy defense requirements for that metal have been met. GMC already had developed several light weight options which it dropped because of the metal shortage.

Ford Offers Special Differential

Ford now is offering the "Nospin" differential on special order with its F-4, F-5, F-6, F-7, trucks. It can be installed on all single-speed axles in the series and on F-5 and F-6 trucks with two-speed axles. The locking differential is installed in production on special order and is warranted by the manufacturer, the Detroit Automotive Products Corp.



Windshields, like ships at sea, “take water over the bow”

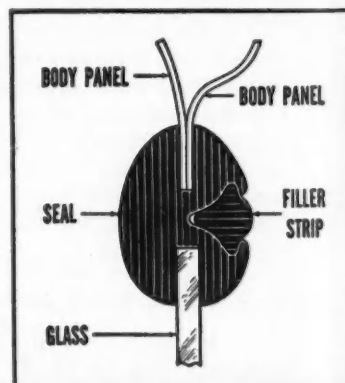
Driving into the teeth of a slashing rainstorm at fifty miles an hour, a windshield takes terrific water impact! And yet, if it's sealed with Inland Self-Sealing Weather Strip, it *won't* leak. It *can't*!

Inland Self-Sealing Weather Strip employs a radically *different* principle. In place of cements and other binders, which inevitably break down, Inland Strip uses the natural resilience of rubber, permanently compressed, to

effect the seal. Weatherproofing is *complete* and *permanent*!

Naturally, windshields and fixed windows *will* break occasionally. But *then*, replacement with Inland Strip is an easy, fast, one-man job that saves a lot of operating time, and saves maintenance cost too! Be sure to *specify* Inland Self-Sealing Weather Strip in all new vehicles you order!

INLAND MANUFACTURING DIVISION
General Motors Corporation, Dayton, Ohio



Easy, Fast, Economical!

The seal goes into the body panel, the glass into the seal, and the filler strip into the locking channel. That's all . . . a fast, low-cost, one-man job . . . done once . . . for permanent weather-proofing!



Self-Sealing Weather Strip

(PATENTED)



WASHINGTON RUNAROUND

by KARL RANNELLS Washington Correspondent

No Further Cut Backs Planned

The next few months will see but little reduction in the amount of consumer durable goods available for distribution. This is the opinion of Manly Fleischmann, DPA-NPA boss, who says the control agencies do not plan further restrictions or cutbacks on civilian hard goods for the remainder of the year. Here's how he figures it.

Despite shortages of raw materials and limitation orders, industry is still turning out consumer goods faster than industry can sell them. This is backed up by government reports that business inventories are now at an all-time high of \$70 billion—an increase of \$2 billion from a year ago.

NPA believes that even with the defense program now getting into high gear, enough raw materials will be available to permit civilian type of production to go ahead at the present permitted rates of 70 per cent for items using steel, 60 per cent for copper consuming goods, and at 50 per cent for aluminum products.

While no actual decision had been made in late July, NPA divisions were going ahead on the assumption that CMP would be broadened during the last quarter to include all industries needing the controlled materials. This meant that all of them would get at least a share.

OPS Eases Rate Revisions

The Office of Price Stabilization in late July issued SR-39 which opens the way for motor carriers, other than common carriers, to obtain any adjustment in ceiling rates which can be shown necessary as a result of rising costs. The order applies to most motor carriers operating on contracts, including tank vehicles which transport milk in bulk.

A month previously, the OPS had given contract carriers, including lessors of trucks, the green light to go ahead and make new long term contracts with shippers and lessees—subject, of course, to any rate rulings made later by OPS.

Effective since June, long term contracts under the ruling are generally considered as those made "for specific services for fixed periods of 90 days or more." But they could also be indefinite period contracts of less than 90 days in which no cancellation clauses are involved.

Under the new SR-39, a carrier requesting an adjustment of rates must show that the new ceiling is necessary for continuation of service, and that the existing rates from which he is appealing, is subjecting him to substantial hardship.

The pricing agency admits that these rate adjustment moves have become essential. Carriers have been

operating under GCPR which froze their rates at the Dec. 19-Jan. 25 levels. Most carrier contracts renewable then or since were originally made prior to the Korean crisis and would thereby admittedly cause hardship if compelled to continue at the frozen ceiling.

Senate Tougher on New Taxes

In late July it looked as if the House would have a hard time getting the Senate to swallow its version of a new tax bill. So far, Senate has been cool toward some features of the House bill (see July CCJ, pg. 37), and may completely rewrite it.

More specifically, the Senate believes it can trim at least \$1 billion from the new tax proposals, now amounting to \$7.2 billion. Moreover, some senators object to so great an increase in personal income taxes. Senate committee hearings are to continue during the first half of August, maybe longer, during which time the House version will be gone over, item by item.

Higher excise taxes, including those on automotive products, are regarded as being inevitable in the final bill—though perhaps not as high as the House boosted them. The Senate group has invited trade associations to appear before it in early August. They will put up a strong plea for modifying the House proposals.

New Safety Regs by Fall

It now looks as if the new Motor Carrier Safety Regulations may be ready by early fall. ICC officials told *COMMERCIAL CAR JOURNAL* that the completely overhauled rules would be in the hands of the full commission on or shortly after August 1.

Because of the summer dockets, however, it is not expected that the Commission will be able to render final approval to the rules as set up by the Safety Section of the Bureau of Motor Carriers until about October 1.

In their final form, the rules will vary considerably from those put before the carriers last fall. A few deletions were made as a result of opinions filed before March 1. In other instances, substantial modifications have been made. During late July, a final recheck was being made to make sure nothing had been overlooked.

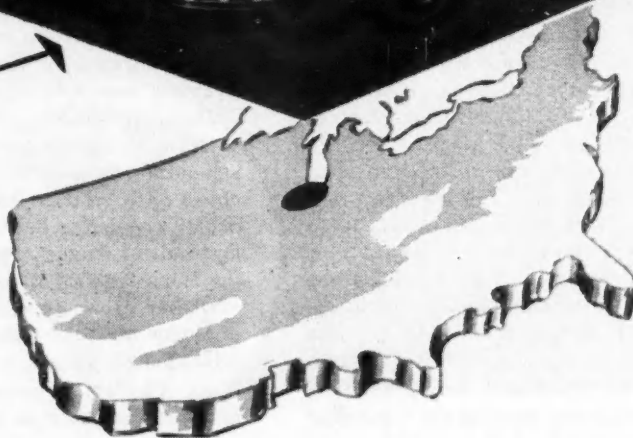
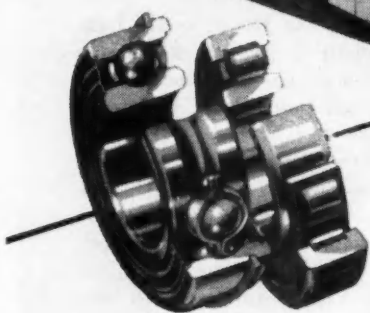
ATA Renews Fight on Leasing

The American Trucking Assn. last month renewed its fight to have the ICC set aside its order of last May prescribing vehicle leasing and interchange rules which became effective as of August 1. A petition filed by ATA in mid-July attacked the order on a number of accounts.

(TURN TO PAGE 126, PLEASE)

WILLETT

SERVES CHICAGO



**...SKF
SERVES
WILLETT**

Ever since 1868 when four wagons and four drays rumbled through Chicago's streets, Willett has been synonymous with service in trucking in Chicago. Today, Willett operates 1273 trucks, tractors, trailers and buses out of 30 garages, picks up and delivers everything from eggs to engines, pupils to parcels. And—because Willett makes a habit of keeping schedules, maintaining uninterrupted service under all operating conditions, Willett relies on **SKF** Ball and Roller Bearings—as supplied by the Berry Bearing Company of Chicago. Like so many other operators of hard-working, always on the job fleets, Willett has found that **SKF** can always be relied upon to furnish the right bearing for the right place, the *right* bearings for economy, service, dependability.

7273



WHY **SKF** IS PREFERRED BY ALL INDUSTRY

integrity • craftsmanship • metallurgy
tolerance control • surface finish
product uniformity • engineering service
field service

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.—manufacturers of **SKF and HESS-BRIGHT bearings.**



OLD MAID STENO: "OH, MYRTLE, I'M GOING OUT TONITE WITH A USED TRUCK SALESMAN."

SECOND DITTO: (REASSURINGLY) "WHAT IS THE DIFFERENCE AS LONG AS HE'S HEALTHY?"

CCJ

Truck Driver: "Hey, Babe, how's about bringin' me a magnifyin' glass? This steak is so small I can hardly see it."

Diner Waitress: "Sure, Mac, maybe it is a little small, but you'll find it takes a long time to eat it."

CCJ

The road service mechanic walked airily into the roadside diner and ordered up a typically scrumptious expense-account meal. One hour later he swallowed the last gulp of coffee, lit up a fat cigar, left a generous tip, paid his chit and made his way out to the company service truck and sped off down the highway.

One of the waitresses looked over at the hat rack and noticed that the road mechanic had forgotten his hat. "I believe old greaseball would leave his head if it were only loose," she remarked.

"I'm positive of it," remarked another flashy blond waitress who was a little longer on beauty than brains, "because I heard him say when he stopped in here last week that he was thinking of going to Arizona for his lungs."

CCJ

Catty Cora: "Buford is simply despicable at times. Do you know what he said?"

Safety Sadie: "No, what?"

Catty Cora: "When we went to that beach party the other day, he told me that I looked like a million dollars in my new bathing suit—after taxes."

CCJ

Freight Checker: "At her request you gave up smoking?"

Warehouse Foreman: "Yeah."

Freight Checker: "And you stopped drinking for the same reason?"

Foreman: "I did!"

Checker: "In addition do you mean to say that for her you gave up billiards, card parties and dancing?"

Foreman: "That is correct!"

Checker: "Then why didn't you marry her?"

Foreman: "Well, after reforming to such a great extent, I decided I could do better!"

SHHH! IT TAKES SOME MEN ALL NIGHT TO DO WHAT THEY USED TO DO ALL NIGHT.

CCJ

The Freight Rate Clerk eloped over the week end and because of his increased responsibility, Monday morning found him in the office of the Traffic Manager asking for a raise.

"Well, well," said the Traffic Manager jovially, "I never thought I'd see you leap into the sea of matrimony."

"I didn't leap," replied the Rate Clerk glumly. "Her family threw me in."

CCJ

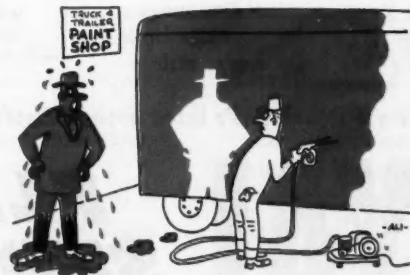
The Maintenance Superintendent took his secretary out to dinner one evening and in the taxi on the way to the night club he squeezed her arm gently and said, "How about a little hug and a little kiss?"

She answered quite abruptly, "Look, we're supposed to be going out for some fun. Can't you forget the office?"

CCJ

The Freight Claim Agent's wife answered the persistent ringing of her door chimes only to find a tramp asking a handout: "Why should a big, strong man like you be out begging?" she asked.

"Well, madame, it's the only profession I know in which a gentleman can address a beautiful lady like yourself without an introduction," he gallantly replied.



"That's taking this 'lost motion' stuff too far!"

SAID MAMA BEDBUG TO PAPA BEDBUG: I'M GOING TO HAVE A BABY IN THE SPRING."

CCJ

"Bringing a bit of the Old West to the East," was the slogan of a new night club which had just opened up on entertainment row in the big city. It featured Cowboys, Cowgirls, the best Western foods and wide open spaces decor. The president of Haulem & Haulem Express decided it was just the place to take his newest uh-honey for an evening of fun. They were there a short time when the girl arose and excused herself to go have her face made up. She returned a moment later, her countenance a blushing red.

"Darling," she said, "you'll have to help me a little. Am I a heifer or a steer?"

CCJ

CLAIM AGENT'S KID: "MOM, WHO PUT THAT STATUE UNDER THE KITCHEN SINK?"

CLAIM AGENT'S WIFE: "SSSH, LAD, THAT'S NOT A STATUE, THAT'S THE PLUMBER."

CCJ

The tank fleet operator had suffered a few reverses so he delivered an ultimatum to his family, who had been pretty much in the social swim, to cut down on expenses for awhile:

"I'm certainly going to do my bit, Dad," replied his young daughter. "I'm going to get a dressmaker to show me how to cut out dresses."

"Oh, I don't expect you to go that far, but I think you might cut down on cigarettes and \$25 hats," replied the fleet operator.

CCJ

Truck Mechanic's Wife: "Henry, you never speak to me as affectionately as you used to. Have you stopped loving me?"

Truck Mechanic: "There you go again! Stopped loving you! Listen, woman: I adore you, I worship you, I love you more than life itself. Now shut your big mouth and let me read my paper."

Resume Work



On goes the Royal Searchlight! Down go your costs!

1. You Get the Answers to your TRUE costs! Your U. S. Royal Distributor has a new, valuable service for your fleet. He turns on the *SEARCHLIGHT!* (Fleet operators have found it so valuable they call it the ROYAL searchlight.)

- He studies the tires on every piece of equipment you own. He renders you a clear, written report with specific recommendations for controlling your tire costs.
- You get a final cost record system you can depend on.

2. You Discover How Large Your Savings Can Be! You save money in costs per mile. You get more safety and efficiency. You put your tire problems in the hands of experts. You get a scientific and exact check-sheet on every vehicle.

3. You Plug Up the Leaks in your Profits! Your original tire investment is protected from here on! You get *ALL* the mileage built into your tires. You *actually* control your tire costs every mile!

A phone call does it—to your nearest U. S. Royal Dealer (He's listed in the Classified Telephone Directory)

HERE'S WHAT COMES TO LIGHT!

- ★ Bad wheel alignment
- ★ Irregular tire wear
- ★ Incorrect inflation levels
- ★ Defective valves
- ★ Improperly matched duals
- ★ Need for brake adjustment
- ★ Rim cuts and bruises
- ★ Needs for repair or recap
- ★ Needs for replacements (the right tire for the job—type, size and capacity)

All these profit leaks will show up on the report when your U. S. Royal Dealer turns on the Searchlight!

U.S. ROYAL

FLEET SERVICE



Should We Overhaul Our National Transportation Policy?

YES: U. S. transportation facilities have eliminated most frontiers of commerce and turned on each other for survival of the fittest. Federal transportation activities should be reorganized with representation in President's Cabinet, with a Public Transportation Commission for judicial and regulatory activity, to best handle peacetime and emergency problems

By Calvin T. Thomas

Manager, Automotive Equipment Marketing
General Petroleum Corporation, Los Angeles, Cal.

NO: Present national transportation policy is sound and fair. Should it result in supplanting competitive services, it is progress, not destructive competition. Need for single government regulatory agency is doubtful. Law might be administered in light of its effect upon all transport and retard incentive for development. Greatest need now is industry unity

By C. S. Decker

General Traffic Manager
The Borden Co., New York, N. Y.

IT IS HEARTENING TO SEE that many individuals on both high and low levels are interesting themselves in trying to solve one of the greatest problems of the day—the economics of transportation.

"Survival of the Fittest" Policy Prevails

THE several forms of transportation—rail, water (domestic and foreign), highway (truck and bus), pipe line, air (domestic and international)—have made tremendous contributions to the general economic development of our country. Their expanding facilities have now eliminated most of the frontiers of commerce and have turned on each other for "survival of the fittest." In doing so, frequently the primary function of transportation—that of adequate, efficient and convenient service for shippers or travelers—is lost to sight.

Lines for progress now seem to be within. It is quite obvious that we must adjust legislation and administrative control to "mesh with the economic gears" confronting our nation in the Atomic Age.

If the fitness of the different forms of transportation are to be properly judged in the light of public welfare, the economic needs of industry and of the nation, there must be provided a tribunal of high order. In view of

(TURN TO PAGE 114, PLEASE)

SOME VERY ABLE STUDENTS of transportation believe that all modes of transportation should be regulated by a single government agency. I am not entirely sure that a single regulatory agency would be advantageous and have somewhat of an open mind.

Development Might Be Retarded

THE factors which deter me from joining those who believe in it are that a single agency might so administer the law that a decision as to one form of transportation would be made with consideration of its effect upon other forms, or so that progressive development or the incentive for development would be retarded.

On the other hand, if each major, separate mode were subject to a separate, independent regulatory agency, there might be less opportunity for interdependent considerations and more opportunity to obtain impartial administration and enforcement.

Each such agency could, I believe, be expected to be primarily concerned with that mode of transport under its control, and development should be encouraged. Congress should pattern the laws and create the agencies—all with the view of carrying out the national transportation policy.

(TURN TO PAGE 118, PLEASE)



Garrett's fleet numbers around 653 trucks and tractor-trailer combinations. There are 313 drivers, of which 196 handle line-haul equipment as this.

Garrett's Safety Cuts Insurance Bill \$60,000

VOUR SAFETY PROGRAM begins when a prospective driver calls to make application for a job. We believe that here is the first place to start building a good safety record.

In the past two and one-half years we have interviewed 35 applicants for each driver hired. At the first interview, the applicant is required to give the names and addresses of the last two former employers as references. At the time we ask for these references, we explain that we are going to follow through on investigations. We have found through actual experience that too much emphasis cannot be placed on the information received from former employers. It gives us a definite indication as to the man's ability and to his character.

If the references prove satisfactory, the applicant is given a written examination. We have two forms for

This is but one of the several benefits derived from a simple but comprehensive program established about 3 years ago

this purpose; one for road drivers and another for pickup drivers. Both tests have 50 questions.

Before taking the test, the applicant is told that he must make a grade of 75 to pass; that if he does not pass, we cannot consider his application.

The purpose of these written examinations is to determine further the man's knowledge of the actual work that will be required of him. Too often a prospective employee may feel he has the ability to do the job when,

actually, he is poorly equipped; both in knowledge and experience. If the applicant is successful in passing the examination, but does not answer all questions correctly, those he missed are fully discussed with him to make sure that he knows the answer.

After passing this first test, the applicant is then given an examination in traffic laws. He must pass with a grade of at least 75. If he fails to pass this examination, he is no longer considered as a driver.



By B. J. Wilson

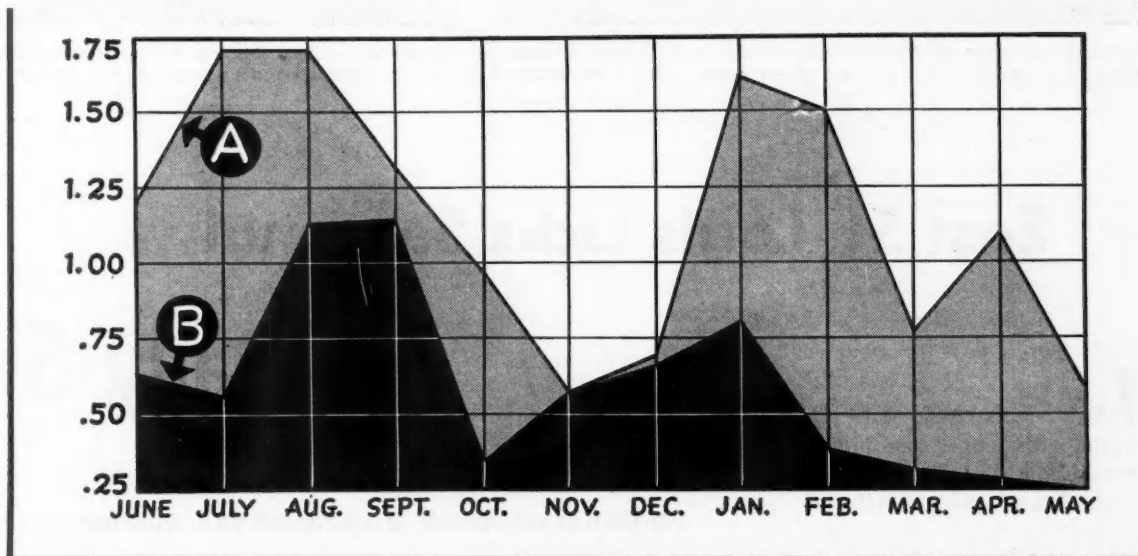
Public Relations & Safety Director
Garrett Freightlines, Inc., Pocatello, Idaho



Perhaps less well known than a scant handful of its competitors, Garrett Freightlines, Inc., of Pocatello, Idaho, is none-the-less a powerful contender for the big time in Western trucking circles. Its 653 pieces of rolling equipment include 149 diesel-powered tandem tractors and straight trucks and about 200 full and semi-trailers. Average monthly mileage between the Pocatello, Salt Lake City area and Portland, San Francisco and Los Angeles is close to the million mark.

In this article, Safety Director Bill Wilson describes the fleet's progressive and vigorous safety policies which have brought accident ratios down from .88 in 1948 to less than .60 today. The fleet has acquired numerous safety awards; saved approximately \$60,000 a year on insurance premiums alone.

In a subsequent issue, CCJ will describe the maintenance procedures and facilities which are housed in the company's new \$800,000 terminal at Pocatello. It contains several unique ideas from which fleetmen of all sizes and vocations can benefit.—THE EDITORS.



Two-year comparison of Garrett's accident frequency. A covers parts of 1949 and 1950; B covers same months in 1950 and 1951

The applicant then must pass a physical examination and be certified by the company-selected doctor. It has been found to be true that unless a physician is acquainted with the requirements, as outlined by the Interstate Commerce Commission and any additional requirements set forth by the company, that too little attention is given to the prospective employee. Often a poor risk can be employed through this laxness.

In selecting a physician, we per-

sonally discuss with him our problems and make arrangements for confidential reports and recommendations when necessary. We have found this program necessary because in our personal examination of drivers through psycho-physical tests, we found one driver who had on file certificates of physical fitness showing vision in both eyes, but who really had vision only in one eye.

If this examination is passed, the applicant is assigned to a unit and

given three student trips. Each student trip is made with different test drivers who have been in our employ a considerable length of time. The test driver makes these trips as an observer and not an instructor.

Each test driver makes a written report on the new driver. This report is submitted to the safety director and made a part of the applicant's file.

If the applicant passes all tests, he

(TURN TO PAGE 138, PLEASE)



Portable summer oil dispenser built in East St. Louis' shops. Attendant watches meter as oil flows under 100-lb pressure



In winter, oil is dispensed from conventional quart bottles. Lamps (some shown above) keep oil and man's hands warm

East St. Louis Licks Seasonal

Daily Service

V MAINTENANCE EFFICIENCY begins with proper handling of daily service routines. If it takes too long to check and add gas, oil and water as vehicles return from their daily trips, bottlenecks will result that may affect the thoroughness of this routine or require additional manpower that will increase maintenance cost. This is particularly true for operations that handle daily service in open areas adjacent to the garage or outdoor parking lot.

In very cold weather, for example, water may freeze and oil may thicken like frozen molasses. The attendant's comfort also must not be overlooked. For example, when his hands are very cold, it becomes very difficult to fill out the daily service cards legibly.

One of the best solutions to such seasonal daily service problems is to be found on the East St. Louis City Lines' property. The temperature range is pretty wide in this area but

High-pressure oil dispenser for summer use, heated oil

a number of innovations on this property very nicely solved the problems caused by weather extremes. In addition, many of these ideas improved daily service efficiency all year.

Shop-Made Tank Dispenses Oil

IN THE summer, East St. Louis buses have their oil replenished from a shop-made, portable, high-pressure tank. It holds about 30 gal of oil which is quickly dispensed, through a metering gage, under 100-lb air pressure.

The tank is filled inside, and the air pressure is put in with the tire

inflation hose. Mounted on casters, it is easily wheeled about the concrete-floored parking lot, where many of the buses are parked when they come in off their runs. Oil dispensed is shown on the gage in fractions of a gallon.

Lamps Heat Oil in Winter

IN THE winter, this system does not work well because the lower temperature of the weather keeps the oil from flowing freely, and it is impractical to keep the tank heated for easy flowing after it is wheeled out of the enclosed garage. So in the late fall,

MONTH												WORK ORDER			
1	2	3	4	5	6	7	8								
9	10	11	12	13	14	15	16								
17	18	19	20	21	22	23	24								
25	26	27	28	29	30	31									

BUS NO.

Mileage _____

Description of work to be done:

Foreman _____

Code	Work Done	Clock No.	Hrs.	Time
			In	
			Out	
			In	
			Out	
			In	
			Out	
			In	
			Out	
			In	
			Out	
			In	
			Out	
			In	
			Out	
Total Hours				

FD-503 (Rev. 8-4-1961) U.S.G.P.O.

Approved _____

A combination driver report and work order, both sides of which are shown

[illegible]

above, is carried on every bus. It is not removed for 10 days unless needed

By L. H. Houck

Special CCJ Correspondent

ing spouts. These oil jars were stored in trays of about a dozen to the tray. About a dozen trays of filled quarts were placed on a shelf inside the small service station, within easy reach of the attendant.

Since cold oil will not run out any faster from the glass jars than from the pressure hose, East St. Louis has installed a bank of incandescent heat lamps just above the oil. These lamps direct infra-red rays over the bottles and racks. Whenever the attendant picks up a quart of oil for a bus, he finds it slightly warm. It pours easily, and the jar cleans out well; there is no waste of time and no excess waste of oil.

Comfort and Efficiency

EAST ST. LOUIS has carried out the efficient service idea further by reducing the steps the attendant has to take to get a bus serviced. The attendant puts the nozzle of the hose in the tank opening and lets the gas run. Each hose is equipped with an automatic shut-off nozzle. Each hose is counter-weighted so that when he releases it after servicing a bus, a counter-balancing weight pulls it up out of the way.

While the gas is running in, he is checking the oil and water.

(TURN TO PAGE 170, PLEASE)

Bus is being gassed in East St. Louis' new parking and service area. Gas hose has automatic shut-off. All hoses (gas, diesel fuel, water) are counterbalanced



Handicaps

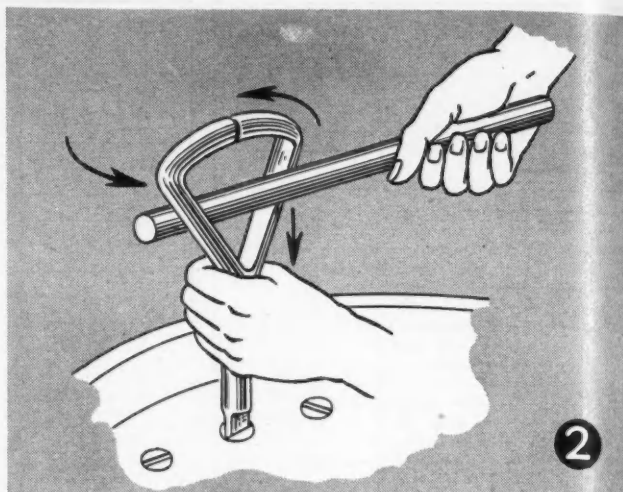
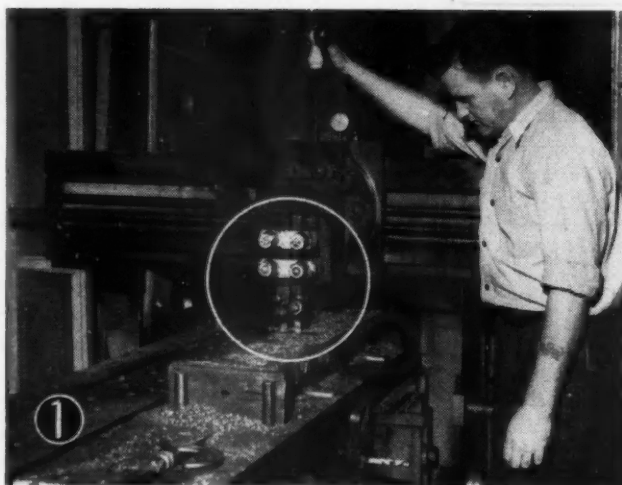
for winter, solves one seasonal daily service problem

beginning last fall, the system was changed.

The new parking lot and service station of the East St. Louis City Lines was completed just a few months ago. It is a large, concrete-floored area that adjoins the bus entrances to the main garage, repair and paint shops.

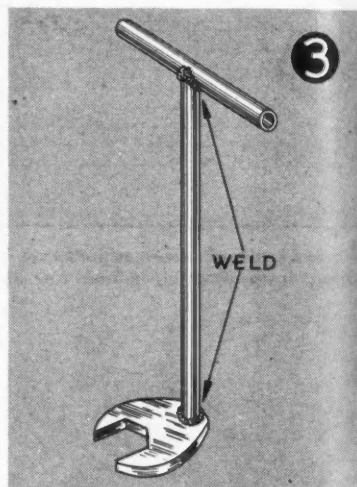
The gasoline and diesel fuel pumps are located at one corner of the entrance to this parking area, and a small building has been built as a service station.

During the past winter, buses were oiled from quart glass jars with pour-



SHOP HINTS

FROM FLEET SHOPS



\$10 FOR ALL HINTS
PUBLISHED EACH MONTH

\$25 FOR THE BEST HINT
PUBLISHED EACH MONTH

1. Head Resurfacing

by Ralph Killian
New Orleans Public Service Co.
New Orleans, La.

By using a second cutter, we are able to get double the cutting with the same operation when resurfacing engine cylinder heads.

After determining the depth of cut to be made, both cutting tools are set accordingly. In the operation shown, the cutter at the right is set

.040 in. lower than the cutter on the left. Thus the tool on the left makes the initial cut and the tool on the right follows and completes the job.

The addition of the second cutting tool is a real time saver. With one cutting tool it was possible to complete four cylinder heads in eight man hours. With the two cutting tools it is possible to complete seven heads in the same number of man hours.

2. Special Screwdriver

by A. Parker
Alhambra, Calif.

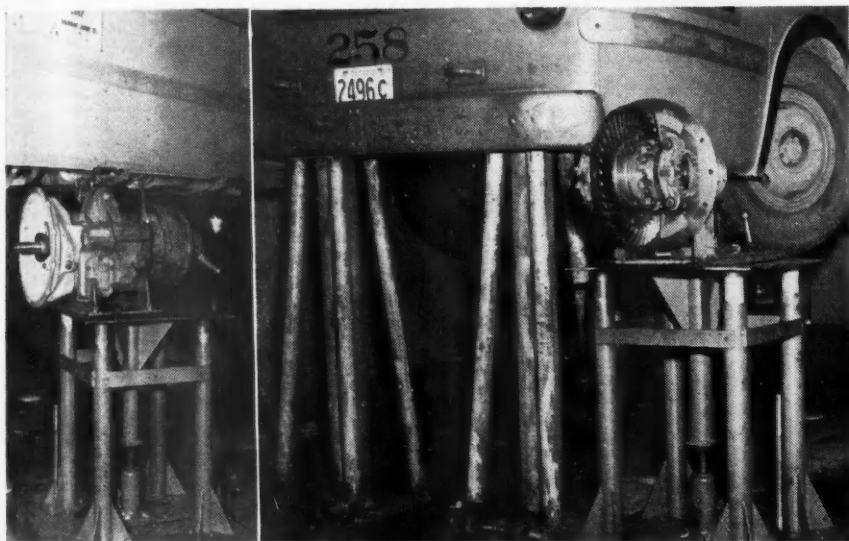
A simple device for both tightening or loosening counter-sunk bolts or screws can be made up in the fleet shop with very little time and effort.

Cut off a 14-in. length of old steering column or stock of suitable size and type steel. Split the shaft to a length of 8 in. Spread the sections,

HINT OF **\$25** THE MONTH

Versatile Hoists

London Transportation Co.
London, Ontario



When using hoists the installation or removal of various components of the buses of the London Transportation Commission, London, Ontario, is greatly facilitated through the use of a number of special small hoists built in the Commission's own shops. Fitted with special heads these hoists are used for removal or installation of clutch assemblies, transmissions, rear axles, differentials.

The small hoists are composed simply of a stand built around an hydraulic jack, which is bolted to a heavy base of 3½-in. angle iron. The legs of the hoist, also bolted to the base, are composed of piping of 2½-in. diameter with another slightly smaller pipe enclosed which slides up and down as power is applied to the hydraulic jack.

The top of the stand is built of 3/16-in. boiler plate and to this top is bolted the various heads required for the removal or installation of the various components. Being mounted on casters these small hoists can be moved any place with little effort.

Similarly, to relieve the weight upon the large hoists when working underneath buses, this company uses portable stands constructed of heavy steel tubing and boiler plate and a heavy steel top which holds the bus and relieves all pressure on the large hoist while the bus is serviced.

bend the ends together and weld. Then grind a blade on the end to fit the type screws working with.

To use, insert an iron bar and turn. The yokes act as ramps and help to push the blades into the screw while pressure is applied to the handle.

3. Starter Wrench

by Fred Teufel
Fred W. and Al Teufel Trucking Co.
Union, N. J.

Here is a handy wrench for working on starting motors in various engines where mounting bolts are inaccessible. Take an old crowsfoot wrench (or a wrench head of suitable size) and weld a T handle to it as shown. In some cases an offset crowsfoot may be better suitable to

this job. Length of handle will vary with the engine make or model.

4. Dodge Engine Removal

by L. K. Van Buskirk
Ottawa, Minn.

Engines in Dodge trucks can be pulled without removing the transmission by loosening the flywheel bolts from the crankshaft and taking out the six bolts that hold the flywheel housing to the engine.

In this way you will be able to slip the engine out, leaving the transmission, clutch, flywheel, flywheel housing all in place. If you remove the pan and the rear main bearing, the flywheel to crankshaft bolts will be easily accessible. This saves a lot of time in engine work.

5. Cargo Locks

by John Vallerie
Vallerie Transportation Service
Norwalk, Conn.

Our drivers have a bad habit of losing the keys to the body doors, and this causes no end of trouble when they have to call in or run down a locksmith.

We have installed combination locks on such doors and have insisted that the driver learn the combination by heart and keep the data secret. We keep the combination on file so that we have a check in case needed.

In our case we charge the lock to the driver, and he takes it with him when he leaves, as the lock is no good to us after the combination is revealed.

Sun Training Schools Promote

If your tune up instruments are "shelved" and your mechanics are rusty

In line with modern editorial policy CCJ has been keeping its editors on the road, out visiting fleet shops, manufacturers and conferences throughout the country. My latest assignment was a trip to Chicago to attend Sun Electric training school for fleetmen and automotive mechanics.

I spent a week with a typical class in engine tune up and diagnosis procedures. I watched specialists being trained and technicians in the making. At the end of 40 hours of instruction these men were adept in precision test routines with modern tune up equipment. Armed with the information they needed to diagnose and adjust ignition, electrical and fuel systems, they returned to their shops with a diploma and a desire to do more accurate work. From here on out they will test—not guess—when tuning engines.

The following report on Sun's training program is offered in the interest of assisting fleets in attaining better maintenance and improved engine performance through competent mechanics.

▼ THERE was a time when low-powered engines could be coaxed into running with a screwdriver and a pair of pliers. A guess at the cause of any malfunctioning played a major role in the diagnosis, and it was "fixed" through trial and error method by a mechanic who had learned his business through practicing in the backyard on his own automobile.

That was twenty years ago. Today's high-powered, high-compression engines are responsible for getting our 8½ million trucks and buses out on schedule—and insuring their return without breakdown and at the lowest transportation cost per mile. Accordingly, "fixing" an engine has long ago given way to a scientific method of diagnosing power losses, inefficient unit operation and maladjustments

that are a potential loss of revenue through the accelerated wear or high fuel consumption accompanying these conditions. Tight schedules, competition and the service expected by shippers demands that our vehicles be kept to high levels of performance, while performance is directly related to the level of maintenance performed on these vehicles.

This requires three factors found in every efficient fleet shop—1. trained mechanics, 2. reliable testing and diagnosing equipment, 3. a sound program of maintenance routines set up at intervals corresponding to the specific requirements of the fleet. Experience during the war years and after proved the value of good PM programs. Reliable tools and equip-

FLEET DIAGNOSIS REPORT											
<small>Column No. 1 Shows the specification for your vehicle. Column No. 2 Shows the readings obtained at the time the vehicle was tested. Column No. 3 An X in this column indicates an unsatisfactory condition which is further explained on the next page along side the circle with the test number.</small>											
	1	2	3		1	2	3		1	2	3
1. BATTERY											
Visual Inspection											
Specific Gravity											
Battery Capacity											
2. STARTING SYSTEM											
Visual Inspection											
Starter Cables and Switches											
Starter Ground Circuit											
Starter Amperage Draw											
3. DISTRIBUTOR RESISTANCE											
Engine Idle R.P.M.											
5. DISTRIBUTOR POINT VARIATION											
6. CHARGING SYSTEM											
Visual Inspection											
Generator Circuit Resistance											
Generator Output											
Cutout Relay - Closes											
Opens											
Voltage Regulator											
Current Regulator											
7. SPARK TIMING											
8. MANIFOLD VACUUM											
9. SECONDARY EFFICIENCY											
1	2	3	4	5	6	7	8				
10. CYLINDER BALANCE											
Cyl. No.											
Vacuum											
R.P.M.											
11. FUEL SYSTEM											
Visual Inspection											
Manifold Heat Control Valve											
Idle Speed Circuit											
Intermediate Speed Test											
High Speed Circuit											
Air Cleaner											
Choke											
Accelerating Pump											
Intake Manifold Leaks											
12. FUEL PUMP											
Volume											
Pressure											
Vacuum											
Vacuum Booster											
13. SPARK PLUGS											
14. COMPRESSION - NORMAL											
Cyls. 1	2	3	4								
5	6	7	8								
Compression - Oil Added											
Cyls. 1	2	3	4								
5	6	7	8								
15. IGNITION PRIMARY CIRCUIT											
16. COIL											
Secondary Continuity											
Coil Capacity											
17. SECONDARY CIRCUIT INSULATION											
Distributor Cap											
Rotor											
Ignition Cables											
18. CONDENSER											
Resistance (Microhm)											
Capacity (Microfarad)											
Insulation (Megohm)											
19. DISTRIBUTOR (Removed)											
Contact Point Condition											
Contact Point Resistance											
Point Spring Tension											
Point Spacing											
Shaft and Bushings											
Cam Accuracy											
Automatic Advance (See Scroll)											
Breaker Plate Condition											
Vacuum Advance (See Scroll)											
20. SPEEDOMETER											
21. RADIATOR-PUMPS-ROSES											
(Visual Inspection)											
22. EXHAUST SYSTEM											
(Visual Inspection)											
23. OTHER ELECTRICAL CIRCUITS											

Fleet Diagnosis Report shows course of study and procedure followed in a one-week course in engine tune up. Actual checks of each item are made by each student on an engine after general class discussion

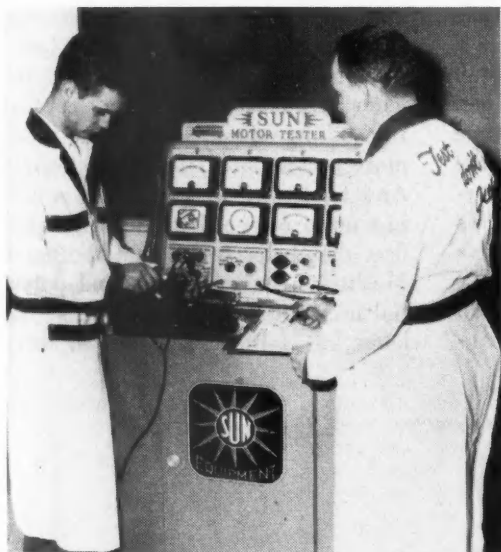
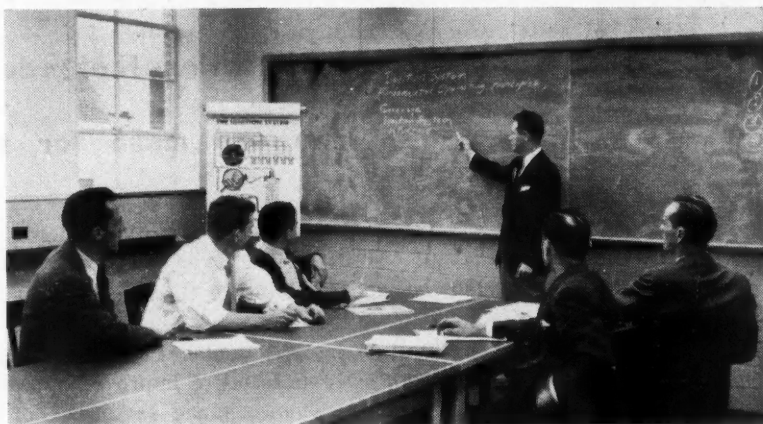
Precision Engine Tests

in engine tune up, consider this retraining program

By M. K. Simkins

Technical Editor
Commercial Car Journal

Extreme right. Graduates of course receive a diploma designating student as an automotive testing technician. Right. Instructor outlines correct procedures and discusses principles of operation of each electrical unit prior to work. Below. Each student performs checks and makes adjustments using the Motor Tester under the supervision of the instructor. Below Right. Student learns correct use of distributor tester, makes necessary adjustments and fills out diagnosis report



ment for engine work are available, but the skilled personnel to handle this equipment is often lacking. With the present emergency, fleets are losing men to war industries and face the problem of training new men or of retraining semi-skilled personnel to keep these vehicles rolling.

The Sun Electric Corp. of Chicago has an answer to this problem in the

form of a battery of service schools set up in 20 cities across the nation, where eligible mechanics are taught the correct use of engine testing equipment as well as the proper diagnosis of engine troubles found with it. I have just returned from a visit to the home factory and the course in automotive testing procedures set up there. I can report that this training

program is accomplishing a thorough, practical job of producing the engine specialists we need.

This training program has been in operation for several years, serving to train up to 6000 men per year in scientific maintenance procedures. Incentive for the program was established through recognition of the fact
(TURN TO PAGE 150, PLEASE)

Trailer Tricks from Mushroom

Semis are made-to-Mushroom-order with ten simple modifications that reduce maintenance, save time and make for safer operation

▼ A SEMI coming in from the factory is just so much iron and steel on rubber tires to us, and while it is functionally designed in many respects, it isn't as versatile a piece of equipment as we require in our fleet of 130 power units and 170 semi-trailers.

That's our job—as soon as a new piece comes into the shop. We put our men to work to dress it to our needs. This has resulted in a series of trailer tricks that many trailer makers are eyeing themselves. Our modifications improve body life, improve appearance, cut maintenance costs and make for more functional units. Some day you may see some of these changes on new equipment, and that new equipment will be better suited to hauling requirements of most fleet operators.

1. Here is one of our best tricks. We use Scotchlite lettering and removable signs on trailer bodies and find scores of advantages. We print individual letters with the word M U S H R O O M on sheet steel plates 19 in. by 24 in. and rivet them in between the side panel uprights with Cherry rivets. Back and front end lettering is done on a demountable strip 84 in. long and 14 in. high, riveted again to the body uprights with a rivet gun. Scotchlite is used for the letters so that we have a brilliant, clean name that can be seen from great distances and even at night. Two sizes of letters are used,

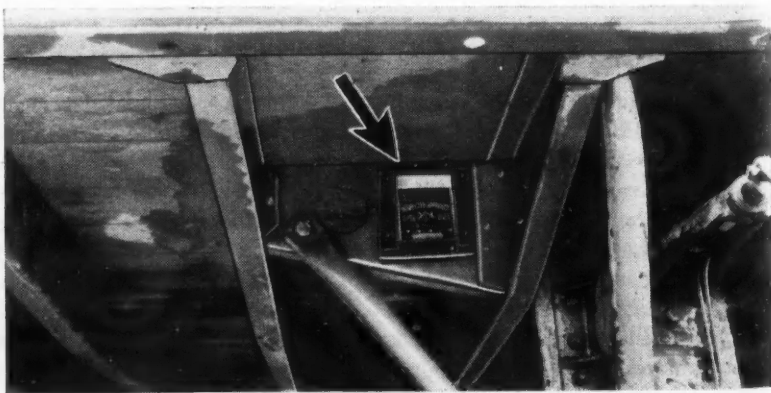
18-in. for the sides and 10-in. for the ends.

Advantages of this setup are many, in terms of improved appearance and maintenance savings. For example, a painter can make up letters for the entire fleet at odd times when other work is slack. One man can install the squares in less than two hours. This is a substantial reduction of time since we formerly had to clean the aluminum, spray on a prep coat, repaint and then reletter. All this took as much as three or four days with conventional type lettering.

Now, however, when we want to repaint, it becomes a simple matter to

remove the six rivets holding each square (about one hour's time) and the body can be repainted without having to mask the signs. We even remove the letters when cleaning aluminum bodies with a special cleanser and find the procedure faster than taking precautions around the lettering. You can readily see that reinstalling these squares is much more economical than relettering. And finally we find that this results in a uniformity of lettering within the fleet that helps to implant the name Mushroom on customers and potential users of our services. This type letter has a life expectancy of three

8. Inspection sticker holder mounted under bed





1. Scotchlite lettering on individual panels riveted to body and removable for repainting



2. Rubber leaders on tarp ropes which allow for stretching and shrinkage of the canvas

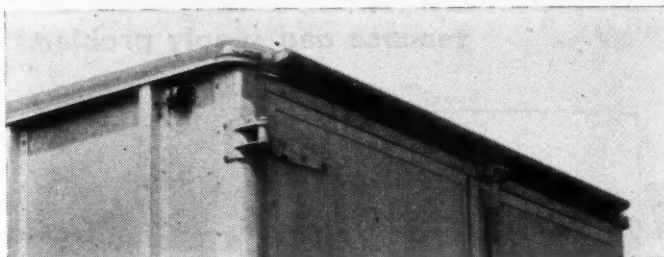
By Wm. Cutaiar, Jr.

Mushroom Transportation Co.
Philadelphia, Pa.

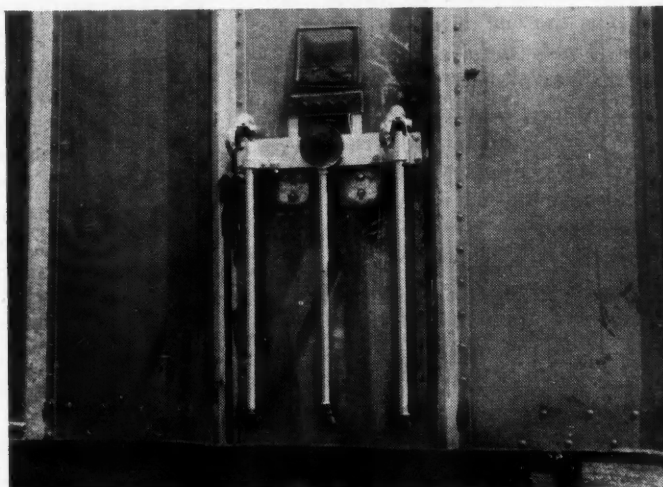
years and will retain its brilliancy for that length of time.

2. Another factor contributing to improved unit appearance is our practice of holding down the trailer tarp with rubber leaders attached to the canvas hold downs. Cargo tarps have a bad habit of shrinking when they get wet on the road, and if the hold downs have been tightened pretty snugly, they often pull the canvas loose at the seams or at the straps. Result is sometimes a ruined cargo. We cut leaders from cross sections of 11:22 innertubes, attach them to the ends of the tarp ropes and loop the

(TURN TO PAGE 180, PLEASE)



4. Combination rain check and top body guard rail of rounded sheet steel welded to header

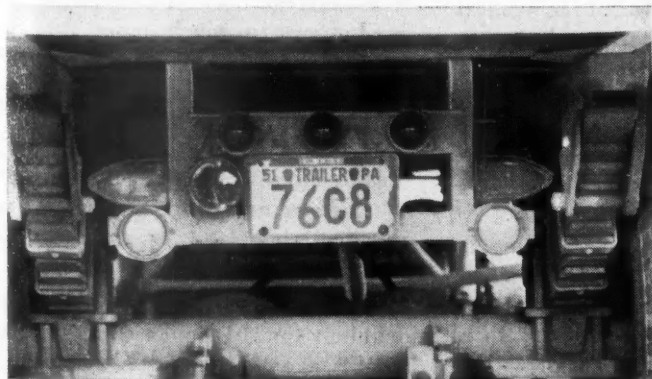


5. Junction block in series with electrical coupler

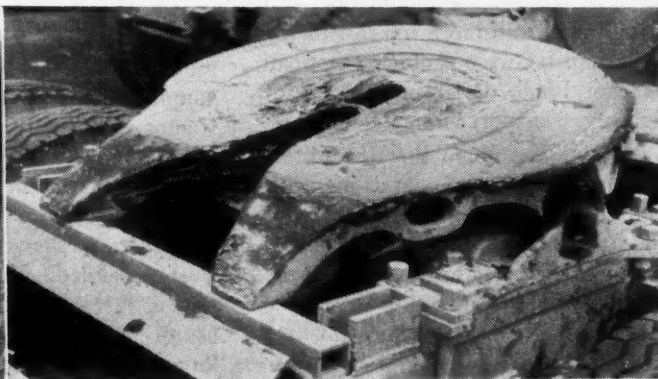
6. Relocated air hose and electrical wires

7. Canvas pocket for holding cargo bill of lading

9. Bracket for license, lights, turn signals



10. Improved fifth wheel mounting brackets



A Quick Look at

Motor Transportation,

Coast-to-coast trip produces some first hand observations on vehicle design, highway conditions, courtesy, fuels, maintenance and supply problems and a few overall comments

V NO MATTER how you slant your throttle or which way you plot your course, it's still a long, dusty trail from coast to coast by motor car. But it is the one sure way to get an idea of how the Nation's highways look and to observe the behavior of all manner of highway users; especially trucks and buses. Truly, it is an experience every fleet operator should have but one which all too few can realize.

For that reason, we thought, readers involved in both truck and bus operations, would be interested in a few once-over-lightly observations noted on our recent 9000-mile trip involving two conventions and more than 50 personal calls on fellow fleetmen.

We found the great majority of them operating with excellent maintenance programs; reasonably well satisfied with manpower and material supplies; on their toes with regard to modern developments, and taking more and more interest in the great industry-wide problems that can make or break the future success of highway transportation.

It should be noted that the difference in local delivery operations, with relatively small vehicles, vary but slightly by regional location. Hence, it is only natural that most of these remarks will be confined to the larger vehicles—both private and for-hire carriers.

Vehicle Design

NOWHERE is the lack of uniformity in state regulations more readily apparent than in the design of vehicles which, of necessity, follows in close relationship to legal requirements. From East to West they grow steadily bigger, though it should be remembered that many eastern "rigs" have heavier axle loadings than their western counterparts.

Most popular vehicle (from the standpoint of numbers) on the East Coast today is the two-axle tractor with single-axle trailer. Average possible gross vehicle load is in the neighborhood of 48,000 lb (8000, 20,000 and 20,000 by axles). Only slightly West of the East Coast bottleneck states come the same tractors with tandem trailers permitting up to 36,000 lb payload on the tandem trailer axles.

Beyond the line running roughly from Dallas to Chicago, the trend begins to change in favor of the western tandem trailer with the axle group moved all the way to the rear, usually coupled to a short wheelbase tandem tractor. But here the load factors get all tangled up with varying weight regulations so that there is no clear pattern of gvw.

But from Denver on, the line is clearly defined. Most popular of all the big vehicles is the tandem semi, usually 35 ft in length, coupled to a long wheelbase tandem tractor with a

lot of extra space between cab and trailer nose; necessitated by bridge formulas and wheelbase requirements. Properly designed, the combination handles 9000, 32,000 and 32,000 lb respectively on the axle groups from a gvw of 73,000 lb.

But there are two other very popular arrangements in the West. Next comes the three-axle full truck coupled to a two-axle full trailer. The loading: 8000, 32,000, 18,000 and 18,000 for a gvw of 76,000 lb. But axle spacing has to be just right.

The third combination is the two-axle tractor, single-axle short semi and two-axle full trailer made up of an identical and interchangeable semi with dolly or "convertor gear" front axle. The loading 8000, 18,000, 18,000, 18,000 and 18,000 with a *theoretical* gross of 80,000 lb. However, axle spacing sometimes gets into trouble on this one and the load works out about the same as the full truck and full trailer combination. It is, however a much more flexible group for certain types of operation—notably the household movers, wholesale groceries, and similar vocational groups.

More and More Diesels

BEFORE we get too far from vehicle design, what about power? From coast to coast, the trend is definitely toward the diesel. Eighteen months ago this observer, comment-

U. S. A.

By Bart Rawson

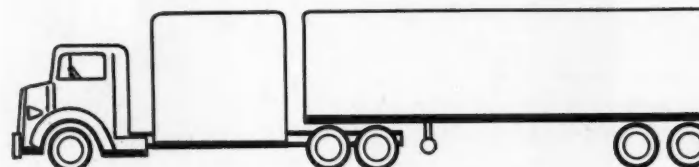
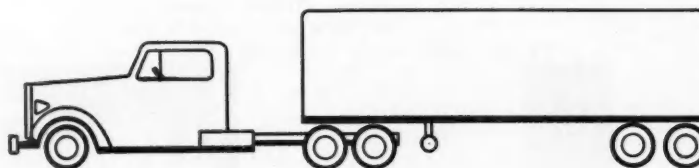
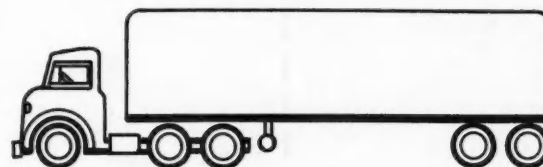
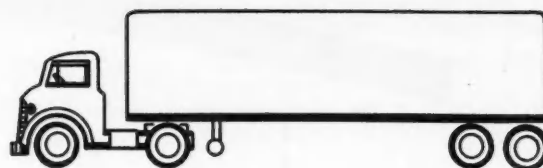
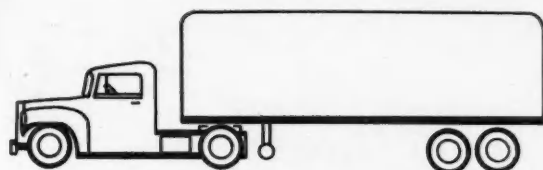
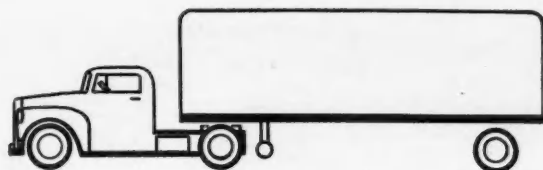
Editor, Commercial Car Journal

ing on a trip through the southeast, mentioned that relatively few of the fleets he contacted were using diesel power in quantity, though many were experimenting.

Today, those experiments have paid off and the upsurge is everywhere apparent. This is confirmed in official figures (as reported last month in CCJ). Last year 12,682 diesel trucks were delivered to U.S. users; almost four times the 4485 units sold the year before. Just for the record, however, it should be noted that this is still only about 1.3 per cent of *all* trucks; perhaps (and this is only an educated guess) about 20 to 30 per cent of the biggest. In the East and middle West, the trend is especially noticeable toward the light weight two-cycle diesel engine, while the far West, not untouched by its sting, still sticks pretty closely to the heavier four-cycle jobs with horsepower ratings from 200 hp up.

Smoke still is a worry of the diesel operator, and even the best of them are guilty at least some of the time. The standard "excuse," and it appears to be a valid one, particularly in the West, is altitude. If they set the pump for sea level, it will smoke above 2000 ft. So, most of them set it for their median altitude and put up with at least a modicum of smoke at both extremes.

The situation on diesel exhaust (TURN TO PAGE 154, PLEASE)



Eight Most Popular Combinations

From top to bottom: Eastern single axle semi, still outnumbers all others; Eastern tandem semi, popular where laws permit; Midwest c.o.e. tractor with Western-type tandem semi; Short-coupled tandem tractor and tandem semi; Long wheel-base tandem-tandem, most popular of all West Coast rigs (equal load on main axle groups); PIE's new "Dromedary" gets 12 ft extra loading box on same over-all length; Three-axle full truck, plus two-axle trailer; and Double semi

TRUCK REPAIR REQUEST

ROUTE NO. 10 TRUCK NO. 150

Suggestions:

Adjust brakes.

Repair signal lights.

Repair right W.S. wiper.

DATE: 4/12/51



Chain rack holds 100 sets ready for quick installation. Sizes are easily determined by chain lengths

Small Laundry

Maintenance control board serves as daily reminder to drivers to report needed repairs. Repair request, above, is hung over vehicle number



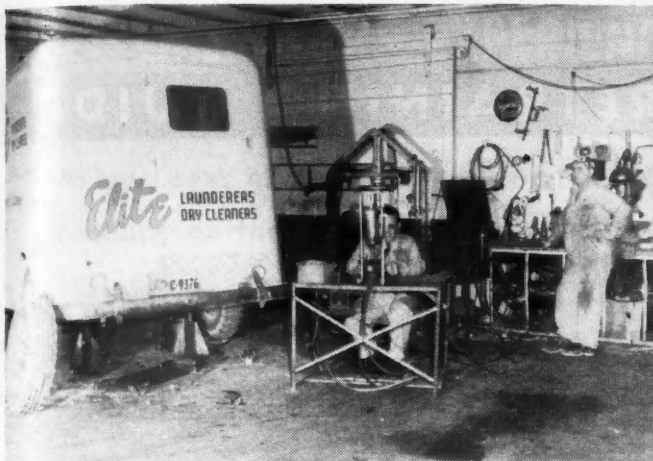
Careful vehicle selection—

WE BELIEVE that we have effected savings in various operational and maintenance costs on our fleet of 48 trucks by close and prompt attention to problems as they arose. In solving some of these disturbing and costly problems, we have consulted engineers, and on our own departed from standard practice when new methods and substitutes brought the desired results.

Experience has made me an advocate of equipment that is heavy enough for the operation. I am opposed to overloading any piece of equipment—for you pay for it in repairs. In a start-stop operation such as ours the 1½-ton truck with a big brake and dual wheel would be the most economical unit on our hard routes, but we lack the space to house them.

Let me point out specifically what I mean. In 1940 we bought four ¾-ton trucks with 11-in. x 1¾-in. brakes. We found it impossible to keep the brakes adjusted. At 3000 miles the drums were badly scored. The brake linings were worn off the shoes. We had overworked brakes from too big a load.

The trucks were returned and the rear ends changed in order to get bigger brakes. We



Pneumatic press made in Elite shop cuts, opens and clamps chain links to save time and labor



One-ton shop-made hydraulic lift is readily maneuverable. Modified ramps are shown at right of lift

Rinses Out High PM Costs

custom-tailored maintenance, shop short cuts, up profits for this fleet

replaced the 15-in. wheel with a 17-in. wheel in order to get a 14-in. brake, and that corrected our problem.

During the war our loads doubled, and we operate now with 1-ton trucks. On these we found our 14-in. brakes cut through in 12,000-15,000 miles. Consulting a brake engineer we were advised to change the type of brake lining we had to a more balanced set of linings where there is higher friction on the reverse shoe to balance action with the primary shoe. Brakes now require only normal adjustment from time to time, and we have had no change in type of brake lining since then.

Lubrication Problems

WE bought our 1-ton trucks in early '48. A problem with kingpins arose. We were replacing them within a year at about 12,000 miles, and at \$5-\$6 a set, plus the cost of labor; this was proving costly. We tried various kingpins with the same

result, leading us to the conclusion that it was the lubricant that underlay the trouble. We found the grease washing off, unable to take the weather and wear. Calling in a lubrication engineer who studied our situation and made laboratory tests, we were advised to adopt a heavy-duty lubricant for chassis and gears.

The new lubricant eliminated the kingpin problem. We have not replaced a kingpin since. The new synthetic lubricant withstands heat, does not wash out in wet and slushy weather, and does not work off

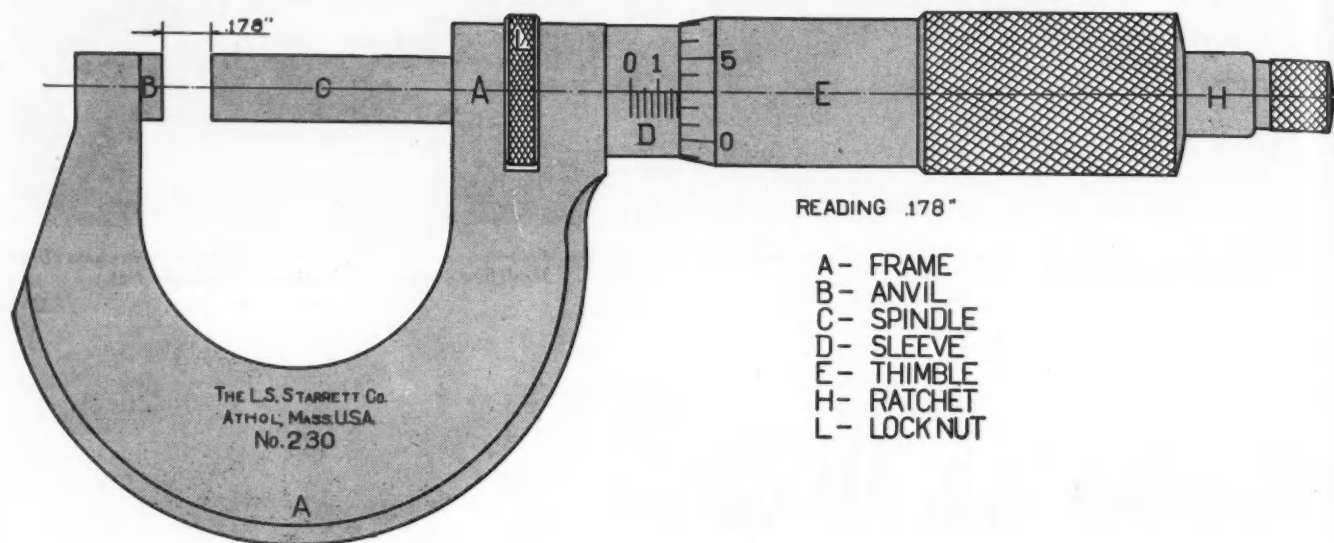
It is necessary to generalize on oil changes since there is no absolute yardstick. We change oil when it gets dirty, and that depends on the operation of the particular unit. A truck running a diaper route in the suburbs may have 100 stops on any day, whereas a truck in an apartment

house area may make one stop as the salesman serves 25 customers. One truck does 2000 miles a month while the other does 2000 miles a year. Then there is the large group that falls somewhere in between.

Our only gage is dirty oil that may be harmful to the engine. We look into this condition every Saturday morning, when oil and batteries get their weekly checkup and at which time mileage is recorded. Where we find the oil has darkened, we change it. Where there is an excessive consumption of oil (more than two quarts a week), we look into it. Our oil consumption at the present time is approximately 55 gal. a month for the entire fleet.

We change filters when we change oil—and that is when the oil gets dark. At one time we operated a fleet for five years without oil changes, changing only the filter elements. We now change filters along with oil. It is more economical because with to-

(TURN TO PAGE 130, PLEASE)



No. 2 How to Read A Micrometer

You can't afford to misread the micrometer caliper. Follow simple steps below for more precision work in fits and tolerances

The pitch of the screw threads on the spindle is 40 to an inch so that one complete revolution moves it longitudinally .025. The sleeve is marked with 40 lines to an inch, corresponding to the number of threads on the spindle. Every fourth line on the thimble is longer than the others and is numbered from 0 to 5. Thus each numbered line indicates a distance of four times $\frac{1}{40}$ inch or $\frac{1}{10}$ in.

The beveled edge of the thimble is marked in 25 divisions, and every fifth line is numbered from 0 to 25. Rotating the thimble from one of these marks to the next moves the spindle longitudinally $\frac{1}{25}$ of .025 or .001 in. Twenty five divisions or one complete revolution of the thimble represents $\frac{1}{40}$ or .025 in.

To read the caliper, therefore, multiply the number of vertical divisions visible on the sleeve by 25 and add the number of divisions on the bevel of the thimble, from 0 to the line which coincides with the horizontal line on the sleeve.

For example, there are seven divisions on the sleeve noted above. Multiply this number by 25, and add the number of divisions shown on the bevel end of the thimble which is 3. Thus the micrometer is open one hundred and seventy eight thousandths ($7 \times 25 = 175 + 3$ which is .178).



45 per cent of fleets surveyed check front tire balance on the vehicle, 31 per cent balance off the vehicle. Survey includes tire buying sources

Analysis by A. W. Greene
Managing Editor, Commercial Car Journal

SURVEY NO. 22

PART 3

Majority of Front Tires
Are Balanced on Vehicles

THE VALUE OF TIRE BALANCING is fairly well known. It is impossible to assume that every fleet maintenance man knows its value, else 100 per cent of the nation's truck and bus fleets would include this procedure in their maintenance procedure—which they don't. It cannot be a problem of lack of equipment because the simplest form—static balancing—requires no special equipment. It may take another war, or more educational work by the tire

companies to gain greater recognition of the value of this item to the point that no fleet maintenance schedule will overlook it. However, it should be admitted that the results reported were better than anticipated.

Table 1 shows that 76.37 per cent of the fleets surveyed balance tires on front wheels, on or off the vehicle, and 50.55 per cent balance tires on rear wheels, on or off the



Are Front and Rear Tire Balancing Methods Similar?

Table 1

Most fleet maintenance men balance front tires on the vehicles, while a small majority balance rear tires off the vehicle. Many do not balance

VOCATIONAL GROUPS	Total Number of Fleets Reporting	FRONT WHEELS				REAR WHEELS			
		Balanced On Vehicle	Balanced Off Vehicle	Do Not Balance	No Reply	Balanced On Vehicle	Balanced Off Vehicle	Do Not Balance	No Reply
		(Per Cent)	(Per Cent)	(Per Cent)	(Per Cent)	(Per Cent)	(Per Cent)	(Per Cent)	(Per Cent)
FOR-HIRE CARRIERS.....	22	59.09	18.18	9.09	13.64	31.82	13.64	27.27	27.27
FOOD DISTRIBUTION.....	44	45.46	34.09	9.09	11.36	20.45	27.28	20.45	31.82
GOVERNMENT.....	33	48.49	39.39	9.09	3.03	24.24	42.43	15.15	18.18
CONSTRUCTION AND MINING.....	3	66.67			33.33	66.67			33.33
INDUSTRIAL.....	6	50.00	33.33		16.67	16.67	16.67	16.67	50.00
PETROLEUM DISTRIBUTION.....	9	66.67	22.22		11.11	33.34		33.33	33.33
PUBLIC UTILITY.....	31	35.48	51.61	3.23	9.68	19.35	45.16	9.68	25.81
TRUCK RENTAL.....	4	75.00			25.00	25.00	25.00	25.00	25.00
RETAIL DELIVERY.....	17	29.41	17.65	29.41	23.53	23.53	23.53	29.41	23.53
BUS FLEETS.....	13	30.77	15.38	38.47	15.38	15.38	7.69	46.16	30.77
TOTALS AND AVERAGE.....	182	45.05	31.32	11.54	12.09	23.63	26.92	21.43	28.02
ALL VOCATIONAL GROUPS									

TIRES - Maintenance Data

vehicle. It may be wrong to say that the remaining fleets do not balance tires, because only approximately half admit it, but unanswered questions certainly give that impression.

However, the information obtained shows that, of the fleets that balance front tires, more do it on the vehicle than off. And, of the fleets that balance rear tires, the reverse is true—although not by as great a percentage.

Of the several channels of investigation sought in this analysis none produced any clearly defined conclusions that might be useful to all fleets. For example, there is no group procedure pattern that could permit saying that where fleets balance front tires on the vehicle, their rear tires are similarly balanced. Whereas this is true in the case of For-Hire Carriers, it is not the case of fleets in the Food Distribution Group. And, of course, within each vocational group, there are fleets that do it one way and others another way.

There is no indication that tires are balanced when rotated. Nor was any relationship found between fleets that check front ends regularly and those who check front tire balance on the vehicle. The operations are not necessarily handled at the same time or by the same percentage of fleets in any vocational group. Whether the final study of tire maintenance practices develops any information to the contrary remains to be seen.

A tire maintenance analysis will appear in the September issue dealing with tire road failures and their causes.

Tire Purchasing Sources

AMONG the various data compiled in this study are facts concerning the purchasing practices of truck and bus fleets. This information rounds out and completes a previous analysis of fleet buying practices published in the February, 1951, issue which covered practically every parts item except tires.

Table 2 shows that the tire factory branches and independent tire distributors are running neck to neck in the race for fleet tire business. Jobbers, who are the leading source of supply for practically all other replacement parts business, don't average $1\frac{1}{2}$ per cent across the board; although, among the Public Utility fleets, there is a case where he gets 100 per cent of this business too.

It will be observed that, except for some fleets in the Truck Rental group, there are fleets that deal exclusively with one of the two sources. The smallest amount of purchases reported from these sources is 2 per cent, by a Public Utility fleet.

This table also contains some interesting facts on tire sizes and plys used by the nation's truck and bus fleets. Perhaps the most interesting observation to be made is that, while the heaviest tires in use—16 plys—are in all four categories of government service, municipal, county, state and federal. The largest tire reported in use is in off-the-road strip mining service in Illinois.



From What Sources Do Most Fleets Purchase Their Tires?

Table 2

Tire purchasing is split principally between two sources, the factory branch and the independent distributor. Governments use the heaviest tires

VOCATIONAL GROUPS	Total Number of Fleets Reporting	TIRE PURCHASING SOURCES								TYPES OF TIRES USED	
		Factory Branch		Tire Distributor		Jobber		Truck Dealer		Number of Plys (Range)	Range of Sizes Used
		Range of Purchases (Per Cent)	Average (Per Cent)	Range of Purchases (Per Cent)	Average (Per Cent)	Range of Purchases (Per Cent)	Average (Per Cent)	Range of Purchases (Per Cent)	Average (Per Cent)		
FOR-HIRE CARRIERS.....	21	10 - 100	53.57	20 - 100	39.95	10 - 40	4.43	10 - 33	2.05	4 - 14	6:00 x 16 - 12:00 x 24
FOOD DISTRIBUTION.....	44	10 - 100	38.09	2 - 100	59.36	2 - 5	0.27	1 - 100	2.28	4 - 14	6:50 x 16 - 11:00 x 24
GOVERNMENT.....	30	25 - 100	60.43	10 - 100	38.83	5 - 10	0.67	0 - 2	0.07	4 - 16	6:00 x 16 - 14:00 x 20
CONSTRUCTION & MINING.....	3	90 - 100	63.33	10 - 100	36.67	.....	.....	.....	.....	4 - 12	6:00 x 16 - 16:00 x 24
INDUSTRIAL.....	6	75 - 100	37.50	25 - 100	62.50	.....	.....	.....	.....	4 - 12	6:50 x 16 - 11:00 x 20
PETROLEUM.....	8	30 - 100	35.00	50 - 100	63.12	1 - 50	0.63	1 - 10	1.25	4 - 14	6:50 x 16 - 11:00 x 20
PUBLIC UTILITY.....	31	10 - 100	25.58	2 - 100	66.97	1 - 100	6.80	1 - 10	0.65	4 - 12	6:00 x 16 - 12:00 x 20
RETAIL DELIVERY.....	16	25 - 100	43.75	25 - 100	54.69	1 - 25	1.56	.....	.....	4 - 12	6:00 x 16 - 11:00 x 24
TRUCK RENTAL.....	4	80 - 90	63.75	10 - 100	36.25	.....	.....	.....	.....	4 - 12	6:00 x 16 - 11:00 x 20
BUS FLEETS.....	6	50 - 100	73.17	10 - 100	26.83	.....	.....	.....	.....	6 - 14	6:00 x 16 - 12:00 x 18
TOTALS & AVERAGE, ALL VOCATIONAL GROUPS.	169	10-100	49.40	2-100	48.52	1-100	1.45	1-100	.63	4 - 16	6:00 x 16 - 16:00 x 24

Composition of Vocational Groups as Used in the Accompanying Tables

FOR-HIRE CARRIERS—Motor Freight Carriers in Local and Over-the-Road Service.

FOOD DISTRIBUTION—Bakery, Dairy, and Other Food Products fleets.

GOVERNMENT—State, County, Municipal, and Federal fleets.

CONSTRUCTION AND MINING—Building, Mine, Quarry, and Gravel fleets.

INDUSTRIAL—Fleets operated by manufacturers.

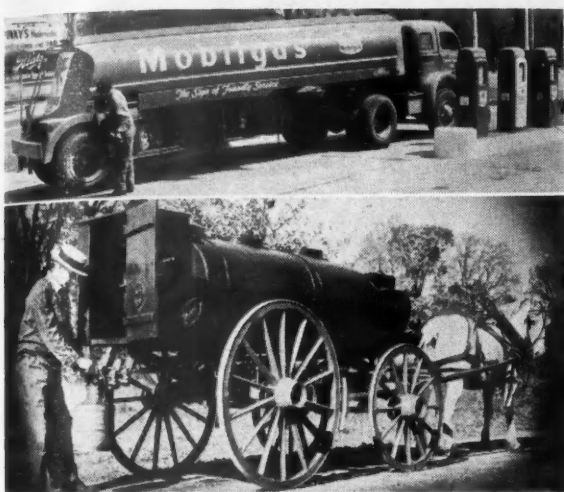
PETROLEUM—Production and Distribution fleets.

PUBLIC UTILITY—Gas, Power, Water, and Telephone fleets.

RETAIL DELIVERY—(Other than Food Products) Dry Cleaning, Laundry, Newspaper, Coal, Ice, Department Store, Beverage fleets.

TRUCK RENTAL—Agencies leasing motor trucks.

BUS FLEETS—Passenger carriers.

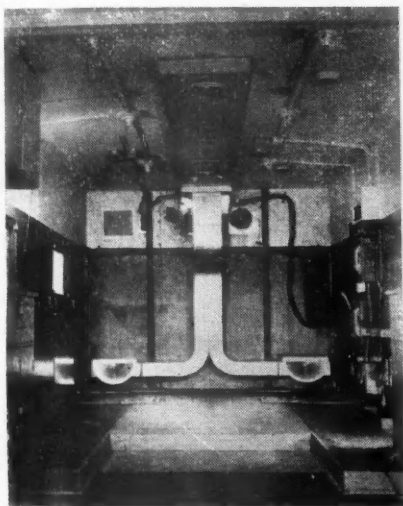


PICKED pix OF INTEREST TO FLEETS

▲ A relic of the "good old days" proves the belief that the "good" is often in question. Delivery of highly inflammable gasoline in a sloppy, slow, dripping tank was a good way from the fast, clean, efficient tanker shown at the top

▼ The interior of the army's new mapping unit is heated or cooled according to the climate in which it is operating. The units are mounted in truck bodies and housed in the same area, with the controls for the unit located inside the body

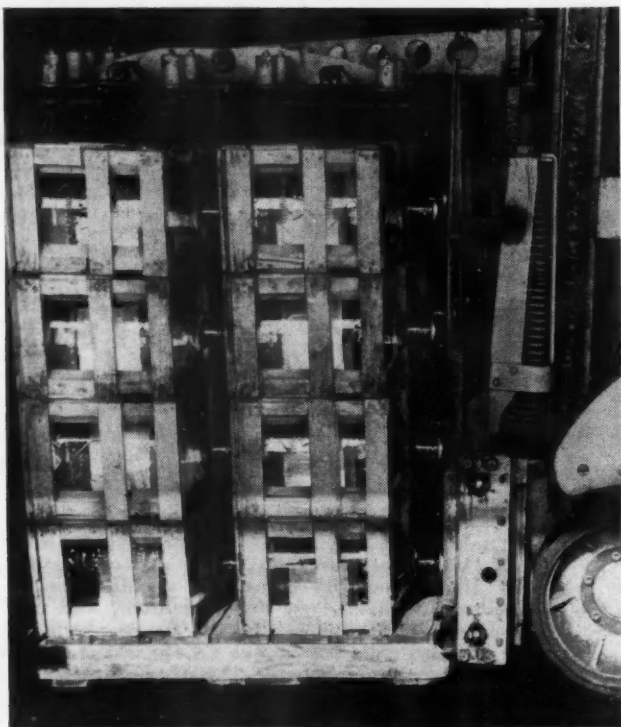
▼ Old buses never die, they are converted. Here's one with more than a million miles under its wheels, cut down, refitted, and out making dollars for its Chester, Penna., owners, Southern Pennsylvania Bus Co., in whose shops the conversion was made. Staff mechanics and body men used tools and materials available in good supply, and have turned a "dead duck" into an excursion bus with many sales advantages. It is refitted, and equipped with a radio, that has a speaker at several locations



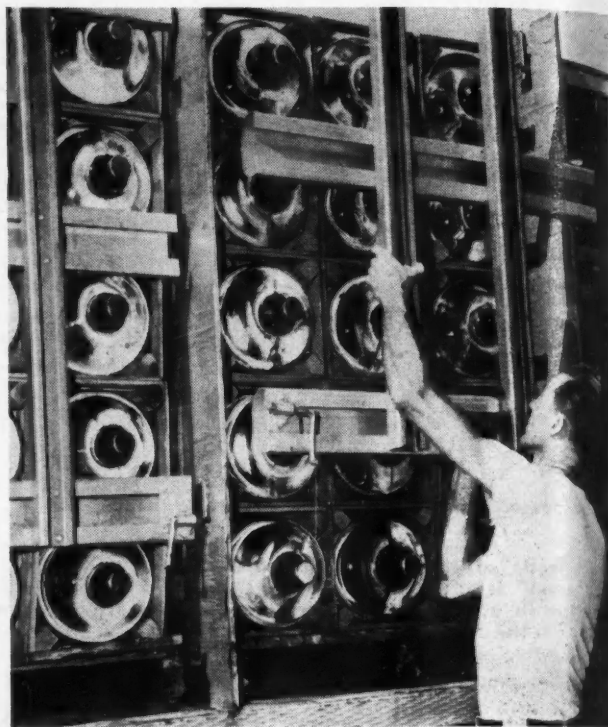
▼ With precision timing, aided by these White 3000 combinations, sections of Consolidated Edison's 450-ton surface condenser are moved into the New York assembly site, providing great savings in building time

▼ Up in the tall timber, loads like this one of 50 tons are all in the day's work. The trailer is a Fruehauf logger which boasts of features like oversize springs mounted in rubber and water-cooled brake drums





Special, mechanically-actuated clamp, shown at top, prevents load spillage



20-lb aluminum retainers replace 75-lb former stake and wood panel sides

Palletizing Program

By James Joseph

V "WE'VE SOLVED our bottle-necks."

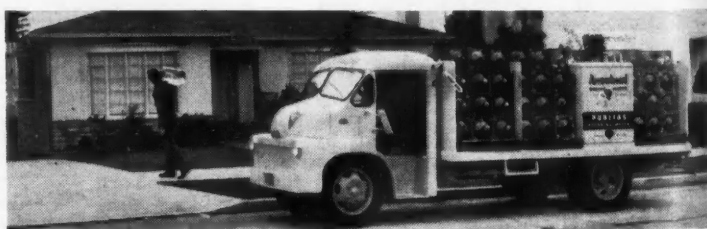
Coming from a fleet operator who annually handles millions of bottles, it's more than just a wisecrack or time-worn expression.

For Los Angeles' Arrowhead & Puritas Waters, Inc.—which bottles and distributes both distilled and spring water for household and office use, had three specific problems—all of them bottlenecks.

In the first place, up until three years ago, it handled its bottles, 5-gal size, individually and by hand. Second, its fleet of in-town delivery trucks working out of 16 southern California distribution centers carried each bottle, crated, in an upright position, which allowed only a 90-bottle load. Third, the company's transport trucks, which supplied the various centers from the main plant, sometimes lost bottles.

Palletizing solved the handling

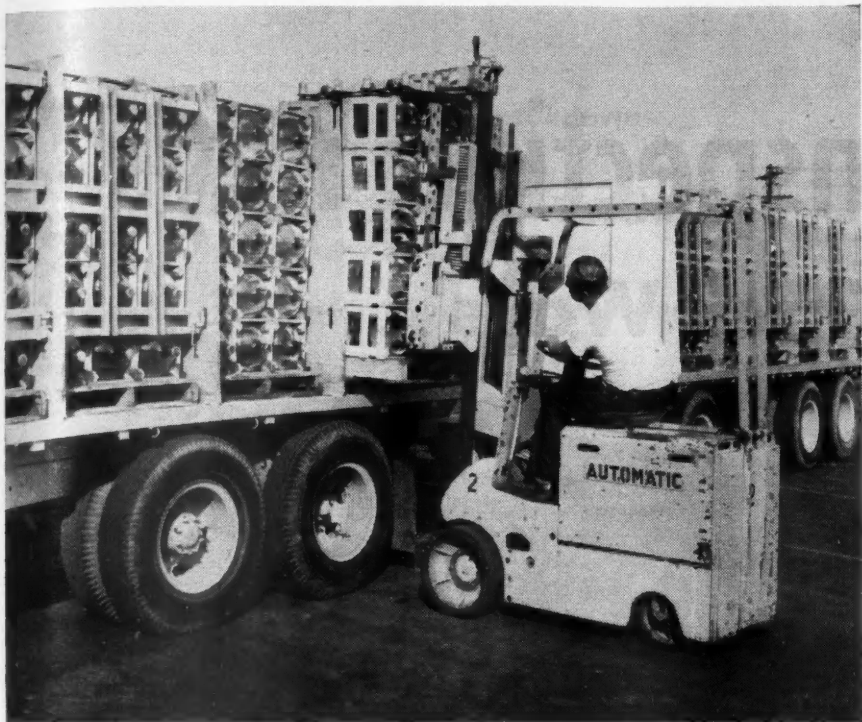
Specially-designed bodies, part of the program, increase



New, 144-bottle residential delivery unit has no doors on cab

problem; truck design upped load capacity to 144 bottles, a 70 per cent gain; and a unique, light-weight aluminum retainer replaced heavy, cumbersome stake-and-wood sides and kept bottles from tumbling off.

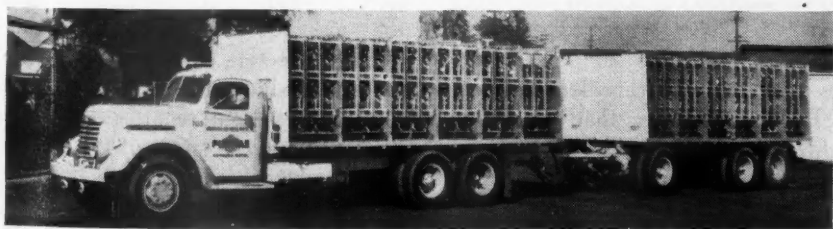
Loading Time Cut 50%
SWITCHING to a completely palletized system has cut loading time in half. Now, as the bottled water comes down the conveyors from the plant, each bottle, in its



Two forks, working both sides, load the 144 5-gal bottles in four minutes

Speeds Loading 50%

payload 70 per cent, improve accessibility, cut breakage



Arrowhead's truck-trailer line-haul combination with new aluminum retainers

individual crate, is mechanically stacked either four or five high. In-town delivery trucks are stacked four high; transport trucks are stacked five high. Stacks are loaded on pallets by hand truck.

The concrete loading dock is directly off the conveyor line. It was constructed with indentations exactly fitting the dimensions of the 36 x 42-in. wooden pallets. These help hold pallets in place; keep them from slip-

ping or crawling as the fork lifts get under them.

Two fork lifts, working either side of delivery trucks, can load a rig with 144, 5-gal bottles on pallets in a matter of three or four minutes.

Palletizing has cut loading costs, and eliminated much of the breakage inherent in manual loading.

The 144 bottles which the new fleet of 77 GMC, model FC-302, 90 hp 6-cyl gas rigs carry is a significant figure. Why? Because just three years ago 90 bottles was considered a maximum load.

Special Body Ups Payload 50%

MORE than 50 per cent more load per delivery truck is the result of special body and cab design by Arrowhead. The body is 94-in. wide and 20-ft over-all. The cab is walk-in type, without doors, and accessible from either side.

Doors were eliminated when a survey showed that the average delivery-salesman climbed in and out of the cab as many as 100 times a day. Opening and closing doors that many times would have added to driver fatigue.

Cab is built-up over the engine to reduce turning radius and provide easy parking and turn-around.

But the important fact is that bottles, once loaded and carried vertically, neck-up, now are carried horizontally, necks out. It was found that carried this way, bottles were easier to reach, made more compact and road-worthy loads, and a truck could carry half again as many bottles as in vertical loading. Now, stacked 24 or 30 bottles to the pallet, bottles are hoisted by fork-lifts to the delivery truck bed, or to line-haul transports.

However, pallets and bottles had a tendency to intermingle on the truck bed—particularly when they were empty and light. Aluminum partitions, were rigged on the bed, extending up five crates high. Roughly, the bed is divided into six pallet-sized compartments, three to each side, in addition to a separate compartment to carry water-cooling units.

Load Accessibility Increased

BESIDES a 50 per cent speed-up in loading, and a 70 per cent increase in load, the horizontal placement of bottles has tended to lessen

(TURN TO PAGE 148, PLEASE)

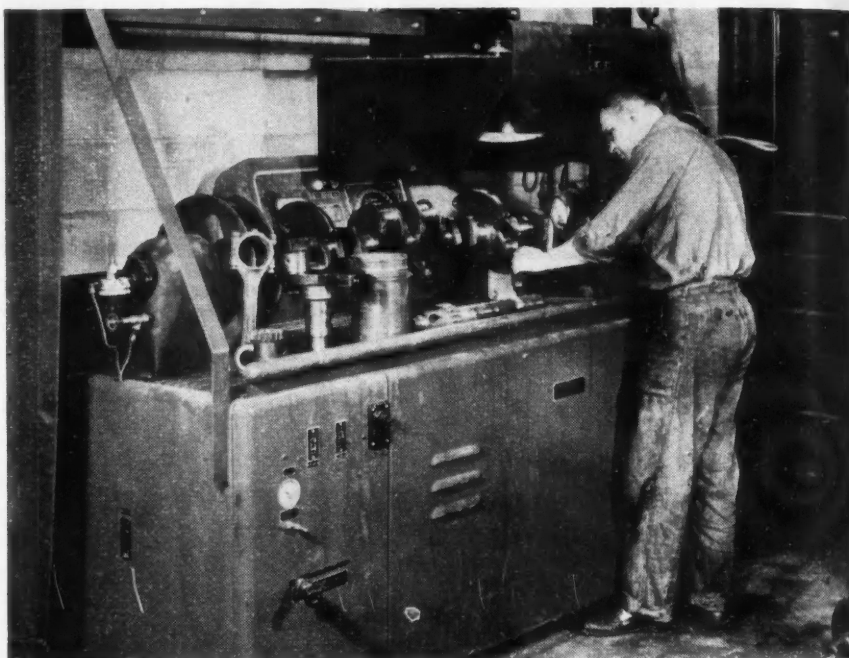
Parts Inspection Pays in Three Ways . . .

By M. K. Simkins
Technical Editor
Commercial Car Journal

WHEN a connecting rod gives away and goes through the block you can often hear the mechanic say, "It crystalized and broke". The same reasoning is given for an axle failure, a spindle breakdown, a crankshaft accident. Actually crystallization does not occur rapidly as these comments would imply, but the metal fails gradually and progressively as a result of fatigue. Steel fails because the stress was too high in one localized area due to a defect in the material, an error in design, or to localized overloads.

Examine your next broken crankshaft. The sides of this progressive crack are usually smooth, with typical concentric circles being in evidence. The crystalline appearance of the remainder of the break is the area of final fracture which occurred when the cross sectional area of the part was reduced too small to carry the load. This being true, then a large part of such failures can be detected in the part during the overhaul, with proper equipment. For microscopic or hair-line cracks which are invisible to the naked eye, will show up plainly in an inspection machine and tell you at once that the part should not be replaced.

It is impossible to find these potential troublemakers in all cases through even the most careful of visual inspections. Many discontinuities that breed parts failures may not even be seen under a magnifying glass, while others are subsurface defects that weaken the member but produce no evidence from an external inspection. As a result fully 20 per



Magnaflux with Magnaglo and black light in maintenance shop of Burlington Transportation Co., Omaha, Neb.

cent of the defects in parts are overlooked by the most experienced inspectors. And this 20 percent figures gravely in the accidents due to mechanical failures that line our highways.

As a general rule a fatigue crack will start more readily at a point of stress. Grinding checks, seams, sharp fillets and poor surface finish may set the scene for a fatigue failure. Cracks may also start from special or accidental conditions such as at rubbing surfaces where lubrication has broken down, at bent or at straightened members, or at points where bolts may be pulled up too tightly or not tight enough. Most shops have set up careful steam cleaning procedures for critical parts and assemblies, while experienced personnel go

over carefully each member before they are reground, refinished or rebuilt. Inspectors have learned where to look for damage from fatigue due to overstress, but records show that they miss a large share of the defects that produce breakdowns before the next assembly overhaul.

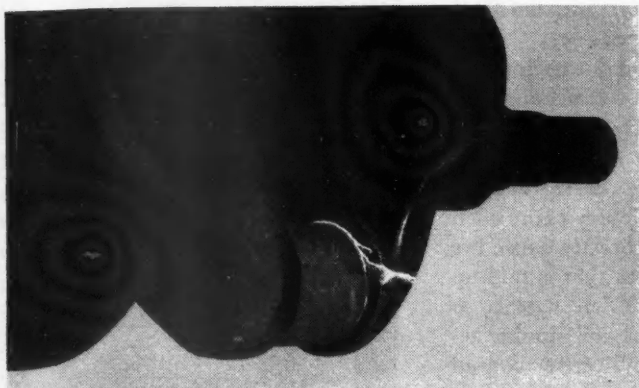
One of the most effective ways to detect such failures before buttoning up that engine is with the magnetic particle inspection called Magnaflux. Magnaflux is the equipment used in inspecting for minute discontinuities in parts by flowing over the surface a dispersion of magnetic particles which are attracted to cracks, seams, laps, laminations or lack of continuity of the metal, so that the nature, location and stage of the irregularity

(TURN TO PAGE 74, PLEASE)

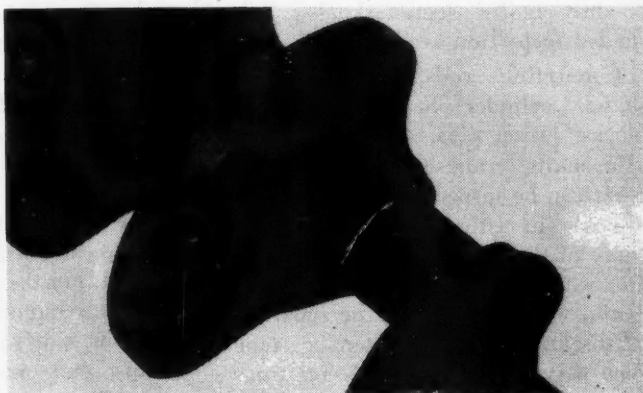
▶ 1. Cuts Breakdowns

▶ 2. Reduces Accidents

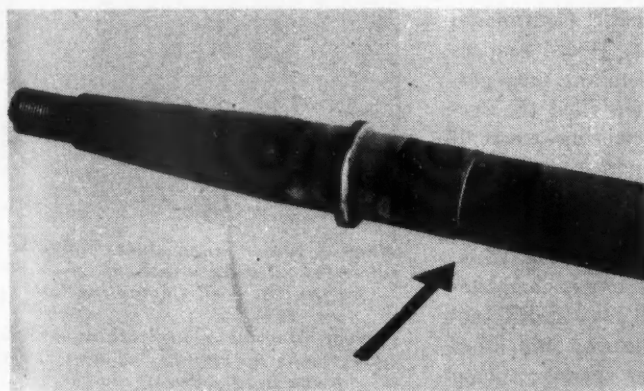
• • • ▶ 3. Slashes Maintenance Costs



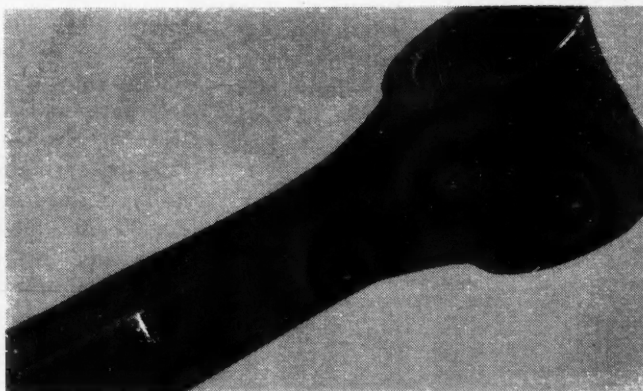
Magnaglo indications of a very fine, invisible fatigue crack in crankshaft may necessitate replacement



Fatigue crack in crankshaft throw shows up under Magnaglo. Such defects are invisible to the naked eye

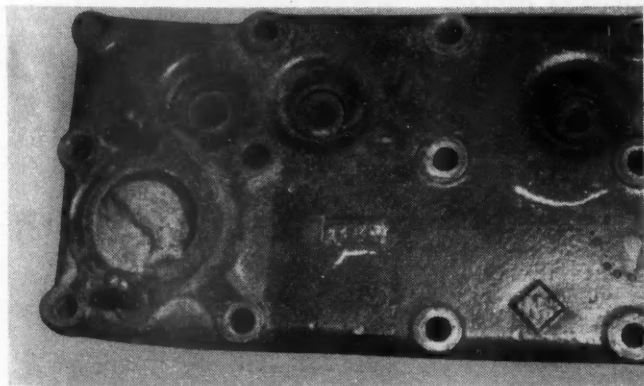


Crack in truck rear axle shows up under Magnaflux. Timely replacement will save an eventual breakdown



Transverse crack through connecting rod started from a scratch or an accidental notch in the rod

Small "leaking" cracks in head show up under inspection



Crack between valve and cylinder is typical of block failures



Parts Inspection Pays . . .

Continued from page 73

can be detected. A companion material called Magnaglo increases the rapidity and sensitivity of inspection by a variation using fluorescent indications under "black light," during which process the indication glows brightly in the semi-darkness of a shaded inspection area.

Connecting rods, pistons, cam shafts, cylinder heads, cylinder blocks, piston pins, valves, spindles, axle shafts, crankshafts and similar parts can be inspected in a matter of minutes in either system, while a study of the defect will tell the operator whether it is safe to use the part again, whether it should be repaired or discarded. As a maintenance tool such a system promises to save time in eliminating wasted repair work on parts that will prematurely fail, but it also saves road breakdowns and cargo delays entailed when defective parts are reused.

An analysis of the latest ICC figures on accidents resulting from mechanical breakdowns shows that the system of parts inspection in fleets can, and should be improved. For

studs, broken spindles, broken wheels and hubs caused 43 of the 76 wheel accidents. Obviously, many of these failures were present when the vehicle was overhauled, and a careful inspection routine would have caught the fatigue cracks that initiated total failure on the road later.

Causes of the breakdowns in such parts as drive shafts, transmissions, axles and housings were not shown in the ICC figures, but the report indicates that they too, were due to fatigue failures. Obviously many such breakdowns do not directly cause the accident, but the truck that is laid up along the highway often figures in collisions, side swipes and similar accidents that are indirectly caused from failure of these and other parts and assemblies.

The Magnaflux system of parts inspection, developed some twenty years ago, is widely used in both trucks and bus fleets. Continental Trailways, of Dallas, Texas, realizes the advantages of installing only perfect parts and has installed the system for checking steering mechanisms and spring hangers every 20,000 miles in the interest of safety. At 60,000 miles they pull the wheels and axles and inspect with Magnaflux. At 120,000 miles the bus is completely dismantled and all engine, differential, transmission, steering and other critical parts such as springs, spring hangers and wheels are inspected. At 60,000 miles they replace piston rings in some of their older engines, and at this time inspect connecting rods, bolts, caps and crankshafts. In this way road delays have been reduced to a minimum.

Rockland Coaches, Inc., at the Spring Valley, N. Y., shop use this system as part of the regular PM service. This practice has cut "axle and differential housing failures to nothing," according to the superintendent of maintenance. Before axles were inspected, 8 to 10 a year broke on the road and in some cases necessitated replacement of the whole differential housing due to a splintered

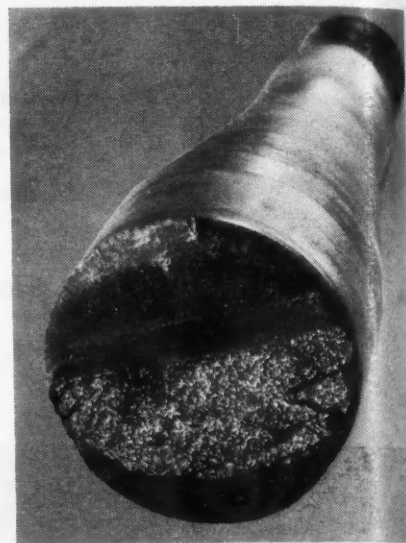
(TURN TO PAGE 176, PLEASE)

Inspection of Bus Parts Reveals—

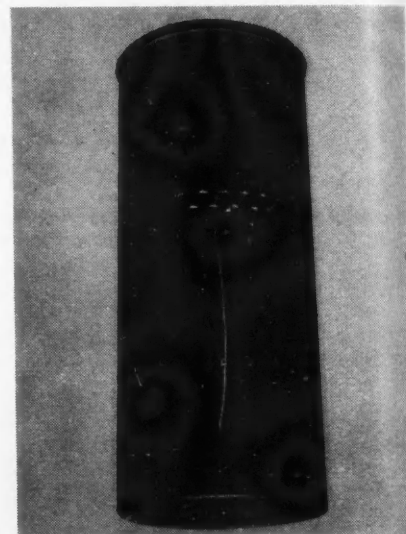
TYPE PART	NUMBER INSPECTED	PERCENT CRACKED
Diesel Pistons	220	81.4
Diesel Cranks	111	34.2
Diesel Liners	158	12.0
Connecting Rods	656	5.8
Steering Knuckles	36	44.5
Steering Arms	51	41.2
Steering Shaft	1	...
Tie Rods	10	...
Ball Joints	6	...
Front Axles	8	...
Brake Spider	2	...

A typical inspection of inter-city and suburban buses by Magnaflux reveals a high percentage of defective parts that could have caused an accident or a road delay

example, such accidents occurring from breakage of ball and socket joints, tie rods, drag links, pitman arm, sector shaft, etc., could have been eliminated in most cases by a modern method of inspecting these parts at periodic intervals. Such steering defects caused 33 of the 73 steering accidents laid to mechanical failures. Wheel failures in sheared

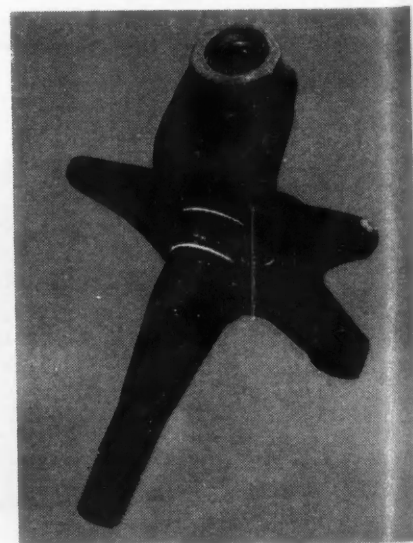


Progressive lines through this spindle failure indicate the part failed from repeated overload



Diesel cylinder liner shows longitudinal crack during overhaul at Halliburton Oil Well Cementing Co.

Typical Magnaglo indications of fatigue cracks on spindle, as seen under black light, warn of danger.



1951 New Truck Registrations by Makes, by States*

STATE		Auto-car	Brook-way	Chev-rolet	Dia-mond T	Divco	Dodge	Fed-eral	Ford	FWD	GMC	Inter-national	Ken-worth	Mack	Peter-bilt	Reo	Ster-ling	Stude-baker	White	Willys	All Others	Total
Alabama	May	1		707	4	4	148	1	526	1	167	101		20		4		42	14	28	3	1,769
	5 Mos.	4		3525	9	12	805	3	2458	1	930	602		82		21		277	101	163	12	9,615
Arizona	May			242	2	1	62	2	184		83	52	1	2		1		20	10	18	3	863
	5 Mos.	2		882	5	6	329	4	662		328	201	4	10	4	4		95	27	73	12	2,648
Arkansas	May			511	2		122		406		177	63		1				36	12	17		1,351
	5 Mos.			3172	7		768		2272		1124	585		9		22		300	46	169	6	8,480
California	May	28		2054	51	23	751	5	1271	8	678	391	25	76	26	14	12	155	45	99	16	27,387
	5 Mos.	112	2	8927	167	233	3566	10	6680	34	3358	1918	101	226	125	77	55	983	248	555	50	1,187
Colorado	May			470	2	1	81		338		92	94	4	11				32	5	58		5,901
	5 Mos.	19		2127	11	23	501	8	1553	5	820	522	15	39		26		169	19	229	15	3,551
Connecticut	May	10	4	241	4	19	85	2	193		53	77		44		2	4	22	18	17	1	232
	5 Mos.	29	29	1089	47	51	425	18	774		273	344		176		20	6	88	61	108	13	1,210
Delaware	May	1	1	91	2	1	20		64		9	27		1		1		3	10	15	4	230
	5 Mos.	4	5	431	9	1	119		352	1	79	131		9		4		36	10	15		1,321
District of Col.	May	2		86	4	1	27	1	35		34	19		2		2		3	1	11		2,057
	5 Mos.	6	3	505	21	17	125	1	237		181	144		13		9		84	6	101	1	9,553
Florida	May			756	17	1	243		551		154	100		27		5		82	24	36	6	2,540
	5 Mos.	6	1	3217	67	30	1344	2	2247	2	760	596		183		84		446	86	453	69	13,540
Georgia	May	1		1008	1	1	194		752		308	141		15		2		82	24	36		832
	5 Mos.	1	7	5094	15	12	1202	6	3833	2	1272	1004		127		37	1	549	112	236	29	2,792
Idaho	May			169	8		38		99		90	59	4	1		5		21	5	32		4,483
	5 Mos.			799	25	4	263	8	545	1	450	299	27	25		9	1	130	23	181	2	20,481
Illinois	May	7		1689	61	27	527	1	972		387	523		26		5	5	99	53	82	11	2,764
	5 Mos.	28	3	6768	294	106	2759	13	4624	4	1846	2539		165		80	7	508	304	341	64	13,443
Indiana	May	1		1115	11	9	301	1	652		161	245		9		15		117	56	66	5	2,044
	5 Mos.	3	1	4453	50	45	1467	9	3242	1	920	1882		108		72		601	303	280	21	9,602
Iowa	May			754	11	2	156		628		146	253		7		4		41	15	20	7	2,012
	5 Mos.	1		3388	54	21	890	1	2712		703	1304		38		18		266	81	114	11	8,162
Kansas	May			835	4	4	131	1	521		210	205		2				52	12	33	2	1,510
	5 Mos.			3136	19	14	663	5	2032		952	977		4		11		233	45	166	4	7,888
Kentucky	May			543	11	1	113		457	1	139	127		6		1		39	5	66	1	1,633
	5 Mos.	1		2968	38	7	695	4	2000	1	773	734		34		18		250	45	305	15	7,922
Louisiana	May			722	10		111		459		161	88		5		1		43	6	27		2,446
	5 Mos.	2		2950	45	5	558		2372	5	883	589		17		4		290	32	163	7	8,430
Maine	May			164			28		122		44	24		12				18	8	25	1	1,079
	5 Mos.	6	7	864	3		188	6	637		247	220		63				84	31	89	5	4,630
Maryland	May		2	351		20	133	7	268		105	106		30		8	2	15	19	13		1,578
	5 Mos.	13	36	1620	10	52	600	30	1140	1	472	480		110		28	2	81	72	78	5	8,762
Massachusetts	May	30	10	495	7	14	207	3	378	3	139	116		28		16	6	39	43	40	4	3,938
	5 Mos.	124	53	2050	59	63	820	24	1673	5	560	564		178		67	24	160	185	134	18	18,078
Michigan	May	5		1465	16	25	491	18	1182		323	214	1	25		22		58	25	63	5	1,709
	5 Mos.	30		6541	57	107	2002	58	5622		1453	1238		112		141		315	188	215	18	8,429
Minnesota	May			559	12	5	155		520	2	142	188	2	4		3		71	11	28	7	1,817
	5 Mos.			2760	30	23	949		2245	13	716	1006		26		15		355	60	194	22	8,300
Mississippi	May			773			118	6	469		258	93		3				45	6	41		3,724
	5 Mos.			3105	3		651	7	2185		1159	613		34		2		228	45	285	3	15,170
Missouri	May	2		1638	7	9	314		967		441	234		3		13		69	65	58		699
	5 Mos.	5		5743	32	84	1581	1	3731		1774	1251		28		41		402	278	207	12	3,411
Montana	May			227	1	2	49		157		82	79	3	4		1		28	7	59		1,554
	5 Mos.			1145	20	3	262	2	688	3	400	401	11	18	5	21		135	30	285	2	7,319
Nebraska	May			633	14	1	91		368		143	176	3	5		4		49	11	51		1,139
	5 Mos.	2		2803	79	6	488		1780	1	709	876	20	38		16		232	55	207	7	777
Nevada	May			47	2		14		27		27	14						6				235
	5 Mos.			242	3		89		153	1	163	72				1		21		32		1,621
New Hampshire	May	1	2	79		1	22		51	2	18	22		4		1		12	8	12	3	2,534
	5 Mos.	7	9	498	3	4	166	3	412	2	155	151		58		12		60	13	65	9	11,402
New Jersey	May	20	48	802	22	19	279	19	606	2	228	187		96		12	3	57	55	70	22	456
	5 Mos.	106	227	3961	75	126	1193	51	2528	6	1003	919		338		59	13	227	236	315	22	2,784
New Mexico	May			168			42		100		64	32		7				15	2	23		2,499
	5 Mos.			1115	3		232		613	2	397	186	2	15	1			110	7	95	5	23,073
New York	May	42	58	1482	39	50	612	6	1089	3	359	482		152		34	3	122	122	119	31	2,542
	5 Mos.	179	412	7200	285	199	3017	77	4545	28	1922	2258		809		275	22	465	578	632	170	11,875
North Carolina	May	7		1038	6	10	223	3	659		253	130		23				83	28	52		577
	5 Mos.	47	4	4464	14	38	968	6	2926	1	1342	863		265		23	2	422	153	221	116	2,611
North Dakota	May			209			54		164		32	79						22	1	16		4,103
	5 Mos.			870	4	1	294	6	673		213	353		1		2		103	2	86	3	21,023
Ohio	May	15	1	1348	22	37	458	6	1161		300	345		49		31		123	123	103	1	1,815
	5 Mos.	64	10	7083	133	147	2322	34	5156	8	1689	2176		264		146		577	624	522	68	8,325
Oklahoma	May			745			174		452	3	174	163		3				40	30	27		1,482
	5 Mos.			3290	2	26	777	1	2185	26	773	749	8	11		18		204	102	148	5	5,683
Oregon	May	1		436	18	5	157	7	297		188	185	8	28	4	3	1	43	12	110	1	5,041
	5 Mos.	3		1855	38	17	670	10	1082		640	597	31	98	13	8	4	180	54	374	23	20,026
Pennsylvania	May	23	68	1687	37	10	576	23	1135		409	542		98		25	1	140	124	125	17	266
	5 Mos.	107	317	6222	149	60	2826	58	4714	1	1743	2389		605		114	14	547	490	513	69	1,380
Rhode Island	May			90	1	4	23		64		24	24		6				9	5	7		1,006
	5 Mos.	22	4	413	8	14	149		373		97	143		30		1		37	29	34	5	4,901
South Carolina	May			532	2		107		331		121	84		9				24	11	17	1	2,125
	5 Mos.	6	1	2582	4	4	577		1427		543	381		75		2		179	52	99	10	8,760
South Dakota	May			221			79	1	209		64	124		1		1		26	5	29		1,499
	5 Mos.			632	22	2																

FREE PUBLICATIONS

FOR YOUR CONVENIENCE USE THIS POSTCARD

A selected list of the latest literature —
catalogs, pamphlets, charts—chosen to help
fleetmen improve operation and maintenance.

L97. Brake Fluid Service

Here is interesting and educational reading for your mechanics. This 8-page booklet provides approved procedure for checking, draining, flushing, refilling, and bleeding hydraulic brakes. Complete with line drawings, cut-aways and photographs of each important step, the information is easily and quickly mastered. The material can be used for training aids, or it can be posted over work benches to guide the mechanic in his work. Write L97 on the postcard for a copy.

L98. Diesel Survey

Continued emphasis on operating economy in the transit industry through correct application of diesel power is stressed in a new survey entitled "Facts About Diesel Economy for Transit Service," just issued by White.

"Fuel economy is important as an answer to today's increasing operating costs," it is stated, "but getting maximum diesel economy must also take into consideration engine and body design, materials used, mating of power plant and coach body, and manufacturing that go into a diesel coach."

The survey points out that today's operating conditions in the transit in-

dustry require that the industry seek intensively for additional economies in operation and maintenance at a time when more service must be provided for mobilization needs and in a period of coach and parts conservation. Write L98 on the postcard for a free copy of this survey.

L99. Masking Aid

Industrial Tape Corp., New Brunswick, N. J., is making available to fleet owners, blueprints and photographs explaining how to make its new Fleet-Industrial Masker.

The masker is designed to provide an easy way to dispense paper masking aprons up to 36-ins. wide, with masking tape pre-applied, for use in finishing, refinishing two-tones and touch up paint spraying.

Experimental versions of the masker have been successfully used for the past year in two automobile manufacturing plants. It was originally developed by the Engineering Department of the Industrial Tape Corporation, but because the company lacks the steel or aluminum allocation to produce the masker, it is making a diagram of the device available to those who desire to construct it themselves.

The masker can be constructed for

about \$25 worth of materials and about 6 hours of labor. The folder containing the diagram also lists the materials needed for its construction. Write L99 on the postcard for your copy.

L100. Tire Manual

Containing a wealth of easy-to-understand information on the subject of tire conservation, a new eight-page booklet "9 Ways to Get More Miles Out of Truck Tires" is now available.

The nine methods to have tires provide their maximum service are: Proper selection of tire for the job; correct inflation; correct loading and load distribution; correction of mechanical defects; proper care of tubes; regular rotation of tires; proper matching and spacing of duals; savings through recapping and repairing; and proper driving habits.

Text of each of the subjects is short, informative and illustrated. A truck tire load and inflation table and a dual spacing table are among the features. Write L100 on the postcard for your free copy.

L101. Brake Study

Three Vanishing Killers is the title of this 16-page, pocket-size booklet issued in the interests of making drivers and owners more conscious of their brakes. In a light style but with serious facts the author shows how fade-out, brakes, secondary fade brakes and vapor lock brakes kill unsuspecting drivers. He outlines the causes of these failures and suggests remedial measures in attaining sure, safe stops.

This booklet will be well worth your reading. Write L101 on the postcard for a free copy.

L102. Road Study

The urgent necessity of recognizing, in time, and preserving the invaluable contribution which highway transportation is making to the defense and security of this country is spelled out in an illustrated booklet released by the National Highway Users Conference.

The new publication is entitled "Roads to National Security" and, by the use of graphs, charts, diagrams and text, shows how our national network of highways, and the vehicles rolling over them, have become an indispensable segment of the national economy for which there is no substitute in time of national emergency.

Write L102 on the postcard for a copy of this booklet.

P1. Stop and Tail Lights

A new design stop and tail light combination unit has been introduced by R. E. Dietz Co., Syracuse, N. Y. The reflecting lens is 3½ in. in diameter, and the lower license plate lens is of frosted glass, said to give additional light to the license area.

P2. Trailer Flaps

Increased demand by many States to provide mud flaps on trailer and truck bodies has led to the development of a reenforced rubber flap wide enough for dual wheels by Acme Rubber Mfg. Co., Trenton, N. J. The flaps are made of heavy rubber, said to be able to withstand spray and throw-off of the largest size tires under any weather conditions. The manufacturer points out that this preventive item will tend to reduce claims by following motorists for spray damage, will protect parts of the body from the abrasive action, of throw-off, and provide a courtesy for other highway users.

The flaps hang from a body rib, suspended by a reenforced steel hanger. They extend low enough to the road to catch most of the throw-off. The flaps meet the standards set by many states which require rear mud protection.

P3. Impact Wrench

Ingersoll Rand, Phillipsburg, N. J. has placed the drive motor and impact hammer case in a parallel casting, providing an impact tool which is about 10 in. high, 14 in. long, and 4 in. wide. The impact mechanism is designed to permit the motor to run continuously even if the spindle is stalled, which lessens motor burnouts due to overloading. The tool, model 34U "Impactool," has a 1 in. square driver and is rated for bolts up to 1¼ in. size.

P4. Metallizing Unit

Wall Colmonoy Corp. has a new model of the "Spraywelder," a power metallizing unit used to apply overlays of hard facing alloys. The overlay is formed from a prepared spray which is applied by force. The machine subsequently bonds the overlay to the base metal. The new model metallizer is lighter in weight and has other mechanical improvements.

P5. Intercom Unit

Two new developments in an intercom staff unit have been announced, one a "privacy light" to tell when it

NEW PRODUCTS

FOR YOUR CONVENIENCE USE THIS POSTCARD

Illustrating and reviewing newest developments

in parts, accessories, shop equipment and tools.

For more information use the attached postcard.

is in use, the other, increased pick up power that enables the person called to answer from any point within a room.

When a particular station is called, that station is the only one which hears the two-way conversation. At the master unit, one or more staff units may be called at one time and received at one time. It is no longer necessary for the person called to operate the staff unit.

Executone Inc., New York, has introduced the improvement.

P6. Connector Kit

An assortment of solderless connectors for primary wire from No. 20 through No. 10 AWG is now packaged in a transparent plastic display cabinet. The cabinet also has space for installing tools, and other connector parts. It is made by the Crescent Co., Pawtucket, R. I.

P7. Driver Log Computer

A device for aiding accurate computation of excess time has been developed by E. Z. Log Co., El Monte, Calif. The gadget was developed to cope with the problem of just what the ICC means by a "week" and to aid drivers and clerks in computing the amount of excess time for these records.

P8. Machinists Vise

One of the features of the new vise being marketed by Columbian Vise & Mfg. Co., Cleveland, Ohio, is a graphite-bronze, self-lubricating thrust bearing located at the front of the sliding jaw. The manufacturer states that this absorbs the thrust of the steel screw head, provides easy operation, and at the same time prevents wear and eliminates end play. The jaws may be pulled up tighter with less pressure.

P9. Aluminum Paint

A new line of aluminum paints is being made by the H. T. Greenwood Co., North Hills, Pa., under the trade mark of the Aluminum Company of America. There are three types available, a metal and masonry paint, a house paint, and an aluminum enamel.

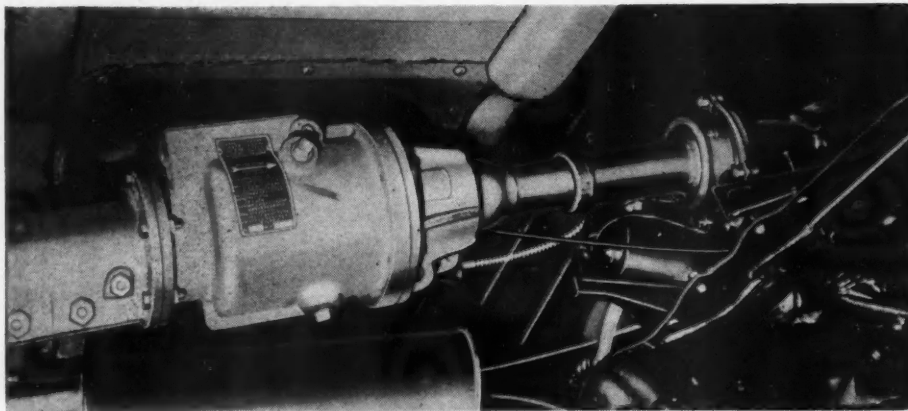
P10. Anti-freeze Tester

A multiple-scale tester for standard makes of anti-freeze has been marketed by the Imperial Brass Mfg. Co., Chicago. It will read the point of protection figure for alcohol, methanol, and ethylene glycol including several variations of these solutions as found in patented anti-freezes.

(TURN TO NEXT PAGE, PLEASE)

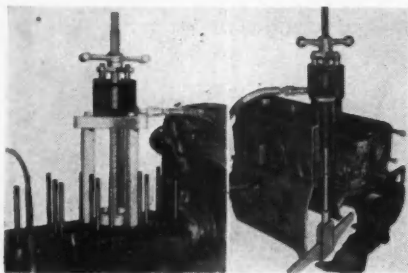
New Product Descriptions

Continued from Page 77



P11. Sleeve Puller

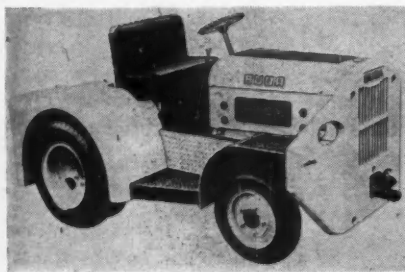
An addition to the Power-Twin hydraulic pulling system will pull or install cylinder sleeves. The manufacturer, Owatonna Tool Co., Owatonna, Minn., said that the unit will operate



on more than 200 different makes of trucks, tractors, and power units, and will perform a sleeve job in a matter of minutes. Present users of the OTC pullers may purchase adapting kits, for use with the new sleeve tool.

P12. Platform Tractor

For large warehouses, terminals, etc., a new 12,000 lb drawbar pull tractor with torque converter has been introduced by Buda Co., Harvey, Ill.



This model tractor is powered with a 6 cyl 230 cu. in. gasoline engine, with diesel optional. The tractor is equipped with 4-wheel hydraulic brakes, a heavy-duty transmission with four forward speeds and dual tires.

P13. Starter Wrench

The starter assembly on 1949-50 Chevrolet cars and trucks may be serviced easily with a special wrench now being made by Bonney Forge and Tool Works, Allentown, Pa. The wrench is curved to clear the solenoid on the starter housing, and has a $\frac{3}{4}$ in. opening with an overall length of 12 in.

P14. Wheel Balancer

Announcement has been made by Bear Mfg. Co., Rock Island, Ill., of a new model dynamic wheel balancing machine. Readings on tread sizes from 6 in. to 8 in. may be made by a dial setting, which indicates the miles per hour up to 100 and the ounces of unbalance to 3. An automatic spark actuates a numbered location dial which shows the exact position of the unbalance.

P15. Wood Sleeve Bolt

An expansion, sleeve-type fastener has been announced by Square Tool & Die Co., Chicago. The design of the sleeve eliminates the second man or helper in many body or wood operations. The bolt is inserted in the hole; a pneumatic tool drives the bolt through the sleeve, and expands six prongs at the bottom of the sleeve. The bolt head automatically countersinks itself below the wood surface, eliminating the possibility of ripping and tearing of materials caused when passing over exposed bolt heads.

The fastener assembly is made in sizes from $\frac{1}{4}$ in. to 1 in. in diameter and in lengths from 1 in. up. Square, hexagon, round, flat, or slotted heads are available.

P16. Truck Overdrive

An auxiliary overdrive for Chevrolet light trucks has been introduced to the industry by Truckstell Mfg. Co., Cleveland, Ohio. The designers say that its use will add service life to the truck.

Other claims made for the overdrive include one of safety, that the driver has control at all times for quick shifts in traffic and for speed on hills. Quicker pickup in traffic is also claimed. There is no free wheeling at any time, as an exclusive "hill holder" eliminates the need to hold the car with foot or hand brake.

A control knob located at the left of the steering wheel engages the overdrive unit.

P17. Snow Plow Blade

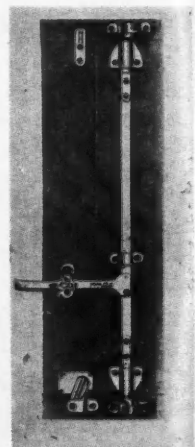
A reversible snowplow blade is being manufactured by Frink Sno-Plows Inc. A new drive assembly frame, pivotally connected to a conical semi-circle permits the moldboard to follow the contours of the street and road surfaces without imposing twisting strains on the truck chassis. The new blade is interchangeable with others that use the same truck attachment, and is available in four different plowing angles.

P18. Plug-Coil Tester

The testing of spark plugs and ignition coils while they remain installed in the vehicle is now possible with the tester being made by WorkRite Products, Glendale, Calif. The set is portable, and has the advantage of being able to give readings while the engine is in operation under actual road conditions.

P19. Refrigerator Door Lock

New items in truck body hardware made by Eberhard Mfg. Co., Cleveland, Ohio, include this medium duty door lock for refrigerator and big van bodies. It is designed for doors of various heights and thicknesses, and may be installed on right and left, single or double doors.



(TURN TO PAGE 112 PLEASE)

CCJ's Truck Specifications

COMPILED FROM DATA SUPPLIED EACH MONTH BY MANUFACTURERS

KEY TO DEFINITIONS

MAKE AND MODEL

Only Domestic Truck Models are listed.

OPTIONAL UNITS

For the express purpose of best fitting the truck to the individual job most of the models listed can be provided with optional engines, transmissions, axles, etc., and these models when so equipped are considered standard stock models.

CHASSIS LIST PRICE

The chassis list price applies to the minimum standard wheelbase with standard tires and standard equipment. All prices are F.O.B. factory. Chassis list price does not include the price of the Cab unless otherwise noted.

RECOMMENDED GROSS VEHICLE WEIGHT FOR NORMAL SERVICE

The Gross Weights published herewith are

those supplied by manufacturers as their Recommended Gross Vehicle Weights for Normal Operating Conditions, and are based upon the Maximum Authorized Tire Size listed. In actual practice the manufacturer may either increase or decrease the gross vehicle weight rating when either favorable or unfavorable operating conditions are involved. Since the proper performance of a motor truck depends upon many factors, including grades, road conditions, etc., the gross weights that a manufacturer is prepared to recommend will vary with particular conditions, and the manufacturer's own standard of safety factors. Specific recommendations, therefore, should be obtained from the manufacturer's representative.

CHASSIS WEIGHT

The chassis weight listed includes the weight of the minimum standard wheelbase chassis, with cowl, with standard tires, with standard equipment, with crankcase and cooling system full, and 5 gallons of fuel in the tank. It does not include the

weight of the Cab. This applies to C.O.E. as well as conventional chassis types. Exceptions are noted.

STANDARD TIRE SIZE

The standard tire size listed is that which is included in the Chassis List Price.

MAXIMUM AUTHORIZED TIRE SIZE

The tire size listed in this column is the maximum size recommended by the manufacturer of the chassis for the Gross Vehicle Weight for Normal Operating Conditions. It is furnished at extra cost, if it differs from the standard size. Dual rears are understood; exceptions noted.

MINIMUM STANDARD WHEELBASE

The minimum standard wheelbase is the so-called standard wheelbase on which the Chassis List Price is based.

MAXIMUM STANDARD WHEELBASE

The maximum standard wheelbase is the extreme end of the standard range of wheelbases offered by the chassis maker.

MAXIMUM BRAKE HP.

Maximum Brake Horsepower at Given R.P.M. is actual dynamometer reading without accessories.

GEAR RATIO RANGE

Gear Ratio Range in High—Ratios within the range given are available at no extra cost. Exceptions are noted.

TRACTORS

Unless given the designation (N)—meaning not available as a tractor—all standard models may be assumed to be available as tractors. Exclusively Tractor models are designated (T).

KEY TO ABBREVIATIONS

MAKES—ALL

B—Bendix.
BL—Brown-Lipe.
Bu or Bud—Buda.
BW—Bendix-Westinghouse.
C—Chevrolet.
Cl or Cla—Clark.
Con—Continental.
Cum—Cummins-Diesel.
Eat—Eaton.
F—Ford.
Fu—Fuller.
G-H—Goodyear-Hawley type.
H—Hotchkiss.
Her—Hercules.
HS—Hall-Scott.
L—Lockheed.
LH—Lockheed front, Wagner "hi-Tork" rear.
LT—Lockheed type front, Timken rear.
LW—Lockheed front, Wisconsin rear.
M—Midland.
N.P.—New Process.
O or Ow—Own.
Op or Opt—Optional.
Shu—Shuler.
Spi—Spicer.
T or Tim—Timken-Detroit Axle Co.
Tw—Timken-Detroit—Westinghouse.

TW—Timken-Detroit—Wisconsin.
WG—Warner Gear.
Wau—Waukesha.
W or Wis—Wisconsin.
Wg—Wagner "hi-Tork."
Ws—Westinghouse.
WW—Westinghouse or Wagner

WHEELS DRIVEN

2F—Forward unit of Rear Axle Group.
2R—Rear Unit of Rear Axle Group.
4R—Forward and rear units of Rear Axle Group.
—All wheels.

BRAKES—SERVICE

Location
4—Four Wheels, front and rear.
4r—Four Wheels, rear only.

Type

I—Internal.
X—External.

Operation

A—Air.
H—Hydraulic.

V—Vacuum.
D or Dp—Dual Primary.

BRAKES—HAND

Location

C—Center of double propeller shaft.
2—Rear wheels.
4—Four wheels.
6—Six wheels.
P—Back of Power Divider.
J—Jackshaft.
T—Transmission.
F—Driveshaft.

Type

D—Tru-Stop disk.
I—Internal.
M—Mechanical.
X—External.
PD—Two drums on rear of power divider.

BRAKE DRUMS

Material

A—Cast alloy iron.
A—American Car Foundry.
C—Cast iron.
Cc—Composite Front, Cast Iron in rear.

Ce—Centrifuse.
CI—Copper Iron.
Co—Composite.
D—Dayton.
E—Ermalite.
G—Gunite.
N—Nickel iron.
S—Steel.

(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME

Type

C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center.
Tf—Tapered front.
A—Straight section sldemembers, lined with oak inserts.

Z—Reinforced (X) member frame, box type sections.

REAR AXLE

Final Drive and Type

B—Bevel.
CD—Chain Drive.
F—Full-floating.
H or Hy—Hypoid.
d—Dual range axle.
2—Double Reduction.
S—Spiral bevel.
W—Worm.
3/4—Three Quarters Floating.
1/2—Semi-Floating.
T—Torque Tube.

GEAR RATIOS

(**) Only one ratio.

Drive and Torque

H—Hotchkiss (springs).
R—Radius Rods.
L—Parallel Torque Rods.
T—Torque Arm.

GOVERNOR STANDARD

Y—Yes.
N—No.

KEY TO REFERENCES

c.f.—Cab Forward design.

c.o.e.—Cab-Over-Engine design.

(D)—Diesel-engine equipped.

(T)—Designed for tractor use only.

(C)—Converted Ford or Chevrolet Model.

▲—Denotes "Includes Cab" when used with weights or prices.

CHEVROLET

†—Forward control chassis for Door - to - Door delivery bodies. These chassis do not have cowl.

•—Includes spare tire, full fuel tank and cooling system.

▲—7.50/20 can be used on the front with no decrease in G.V.W. when 8.25/20 are used on dual rear wheels.

••—Own Loadmaster engine available at extra cost.

▲—8.25/20 front tires are required when 9.00/20 dual rears are used.

††—Diameter: (Average) Front, 2.658; Front Center, 2.7168; Rear Center, 2.7478; Rear, 2.7788. Total Length 5 3/4.

†—4 speed transmission available.

††—Also available in 5.14 ratio.

•—5.43 available.

••—Two speed axle available.

CORBITT

▲—Available with optional tires and axles for less G.V.W. rating.
††—Also available with Cummins HRB 600, HRBB600 and NHB600.

CROSBY

••—Pick-up truck only; panel delivery 1360.
†—Front 1.375 x 1.312; 3 Center 1.375 x .870; 1 Rear 1.500 x 1.499.

DODGE

▲—Front only; Rear 7.00/168.
•—Front only; Rear 8.25/16.
†—Front only; Rear 6.50/208.
•—Front only; Rear 7.50/20.
▲—Front only; Rear 9.00/20.
†—Front only; Rear 10.00/20.
†—Rear of transfer case.

DUPLEX

†—Torque Divider, Timken T70-2 speed.

FEDERAL

▲—Diesel engine obtainable.
†—Five speed transmission obtainable.
▲—Auxiliary transmission Spicer 6231B with 3 forward speeds.
†—Auxiliary transmission Spicer 703F with 3 forward speeds.

†—55M, 60M and 65M have single speed, double reduction rear axle.

†—Radius rods obtainable.

†—For wheelbases below 196" —9 x 3 x 1/4.

•—For shorter wheelbases, 10 x 3 1/2 x 1/4.

††—Diesel engine obtainable.

—Auxiliary transmission Spicer 703F or 8031 with 3 forward speeds.

††—Overdrive optional.

▲—Torque Divider Timken T70-2 speed, T50 obtainable.

†—SW3013 obtainable.

†—SW3010 obtainable.

FORD

▲—Air brake equipment optional on F-8, Front 16 x 2 1/4, Rear 16 1/2 x 5 1/2, lining area 533 sq. in.

•—Reinforcement 6.58 x 2.21 x .125 extended to include front spring rear brackets and rear spring front brackets.

†—Reinforcement 8.5 x 2.56 x .15 starts at rear of front spring rear brackets and ends behind rear spring front brackets.

•—Cowl to axle.

KENWORTH

††—Timken T13129 PA Trail-ing Axle.

OSHKOSH

▲—Includes cab.
•—1091 cu. in.
•—Hydraulic coupling.
††—Buda 610C84 opt. dual.
••—Other Cummins 6 cylinder engines optional.
□—Includes cab and dual tires on front, center and rear axles.

REO

▲—Model 331 engine can be furnished.
†—Two speed axle available.
▲—Double reduction and 2 speed available.

STERLING

†—Rear only; Front 11.00/24.
†—Rear only; Front 11.00/22.
•—Own EJ three speed auxiliary transmission furnished.
†—Timken T70 two speed torque divider furnished.
†—Parking brake at rear of auxiliary transmission.
•—Rear only; Front 12.00/24.
•—Rear only; Front 14.00/24.
•—Rear only; Front 16.00/24.
•—125 cu. in.
††—Own model FJ three speed auxiliary transmission furnished.
††—Timken T76 two speed transfer case furnished.
††—Timken T77 two speed transfer case furnished.

†—Parking brake at rear of transfer case.
††—Tapered, 9 x 7 x 3 1/4 x 1/4.
••—Also available with Cummins Diesel engine and appropriate transmission.

STUDEBAKER

▲—Two speed 6.13-8.10 and H.D. 6.20 or 6.80 optional.
††—Two speed 6.13-8.10 optional.

TRUCKSTELL

•—Single front, dual rear.
□—With Baums auxiliary transmission.
††—With Baums power divider.
†—2 speed locked in low axle ratio.
•—Including slip-over reinforcing frame channels.

WARD LA FRANCE

†—Available with optional rear axles.
▲—Available with 11.00/22 or 12.00/20 tires for G.V.W. of 60,000 lbs and optional front and rear axles.
▲—Auxiliary transmission Fuller 3A65, 3B65, 3A92 and 3B92.

WILLYS

•—Complete vehicle (Pick-up Type body on HT and 4WD).
†—Three speed transmission, 2 speed transfer case.

(Turn to Next Page, Please)

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE		TIRE SIZES		ENGINE DETAILS	TRANSMISSION		REAR AXLE		FRONT AXLE	BRAKES				FRAME									
			Minimum	Maximum	Standard	Authorized Rear	No. of Cylinders	Stroke	Displacement	Comp. Ratio	H.P. at R.P.M.	Main Bearings	Governor Standard	Make and Model	Gear and Type	Drive & Torque	Range in High	Make and Model	Make Operation	Lining Area	Drum Area	Material	Hand Location	C-A Dimensions (Min. Std. W. B.)	Side Rail Dimensions	Type
1	Available	200	15000	16000	7.00/20	8.25/20	6-4	4 1/4	263.5	6.178	78-2800	2-3 1/2 x 10	NWG T9	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
2	(c.o.e.)	225	16000	17000	7.50/20	8.25/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
3	(c.o.e.)	250	16000	17000	7.50/20	8.25/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
4	(c.o.e.)	400	22000	23000	9.00/20	10.00/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
5	(c.o.e.)	450	22000	23000	9.00/20	10.00/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
6	(c.o.e.)	550	22000	23000	9.00/20	10.00/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
7	(c.o.e.)	550	22000	23000	9.00/20	10.00/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
8	(c.o.e.)	550	22000	23000	9.00/20	10.00/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
9	(c.o.e.)	600	22000	23000	9.00/20	10.00/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
10	(c.o.e.)	601	22000	23000	9.00/20	10.00/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
11	(c.o.e.)	602	22000	23000	9.00/20	10.00/20	6-4	4 1/4	320.5	6.255	105-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
12	Blodman	NSH	130	190	6070/8.25/20	10.00/20	6-4	4 1/4	339.6	6.272	131-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
13	Blodman	NSR	142	171	6070/8.25/20	10.00/20	6-4	4 1/4	339.6	6.272	131-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
14	HL	HL	93	197	7420/8.25/20	10.00/20	6-4	4 1/4	339.6	6.272	131-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
15	Brown	R6570T	144	166	11.00/22	12.00/24	6-4	4 1/4	323.5	6.445	172-2600	2-3 1/2 x 13	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
16	(D)	HRB600T	144	166	11.00/22	12.00/24	6-4	4 1/4	323.5	6.445	172-2600	2-3 1/2 x 13	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
17	(D)	HRB600T	144	166	11.00/22	12.00/24	6-4	4 1/4	323.5	6.445	172-2600	2-3 1/2 x 13	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
18	(D)	HRB600T	144	166	11.00/22	12.00/24	6-4	4 1/4	323.5	6.445	172-2600	2-3 1/2 x 13	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
19	(D)	HRB600T	144	166	11.00/22	12.00/24	6-4	4 1/4	323.5	6.445	172-2600	2-3 1/2 x 13	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
20	(D)	HRB600T	144	166	11.00/22	12.00/24	6-4	4 1/4	323.5	6.445	172-2600	2-3 1/2 x 13	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
21	(D)	HRB600T	144	166	11.00/22	12.00/24	6-4	4 1/4	323.5	6.445	172-2600	2-3 1/2 x 13	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
22	Chevrolet	JP	945	116	4300	2675/5.00/168	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
23	Fwd. Control	JP	1070	125	5800	2825/5.58	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
24	Fwd. Control	JP	1090	137	7000	3155/5.00/178	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
25	Fwd. Control	JP	1155	137	8800	3155/5.00/178	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
26	Fwd. Control	JP	1215	137	10000	3155/5.00/178	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
27	(School bus)	UL	1275	161	14000	3330/5.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
28	(School bus)	UL	1405	161	14000	3330/5.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
29	(School bus)	UL	1405	161	14000	3330/5.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
30	(School bus)	UL	1405	161	14000	3330/5.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
31	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
32	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
33	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
34	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
35	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
36	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
37	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
38	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
39	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
40	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
41	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
42	(School bus)	UL	1550	137	15000	4250/7.50/202	6-3	4 1/4	216.6	6.176	92-3400	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T
43	Corbett	G101B	127	135	2000	10.00/20	6-4	4 1/4	339.6	6.272	131-3200	2-3 1/2 x 10	NWG T97	4-Tim E100DPH	HF	H	6-9	32502H	L4HV	314	534	TX	TX	10-3 1/2 x 10-3 1/2	10-3 1/2 x 10-3 1/2	T



cross section of a cost cutter

Here are 13 sound reasons why Cooper truck tires consistently deliver top profit payloads on the world's toughest hauls. Each reason contributes to lower truck tire costs—from the extra layers of special cushioning that uniformly distributes the destructive forces of stress and strain to the double cord breakers that add extra strength at the shoulders and sides. Each will be more fully appraised by the friendly Cooper dealer nearest you—no obligation, of course. Why not call

him today—especially since present uncertainties call for truck tires built to deliver more original and recap miles than ever before.

Cooper
TIRE & RUBBER COMPANY

Factories at Findlay, Ohio

TIRES • TUBES • BATTERIES • ACCESSORIES • REPAIR MATERIALS



Turn to Page 86, Please)

Tachographs

have helped
cut
maintenance

31%



THE OK TRUCKING CO.

GENERAL OFFICES
1810 SOUTH STREET
CINCINNATI 4, OHIO

PHONE WABASH 8100

May 6, 1950

Wagner Electric Company
2917 Colerain Avenue
Cincinnati, Ohio

Attention: Mr. O. G. Foley, Mgr.

Dear Mr. Foley:

During the beginning of the year 1949 as you will recall, we installed Tachographs on our entire over-the-road fleet. This conversion at the time cost us a lot of money, but after talking to you we were convinced that the outlay of cash would be justified. Since then we are positive that what you told us was correct, and in light of this, we would like to pass on to you a little bit of the experience we have encountered since installing the Tachographs.

Our garage maintenance cost per tractor vehicle has been cut approximately 31%. This in itself has meant a huge saving to The O. K. Trucking Company. Plus this maintenance saving, we have received a marvelous reaction from our drivers in regard to the use of the Tachographs. The drivers are sold that Tachographs are a good friend to have and operate to their advantage. Twice we were able to defend a driver when people tried to pin an accident on him for which he was not responsible, because we could prove where he was and show that he could not have caused the accident.

Through the use of the Tachographs we are able to analyze just how fast the drivers are going, plus using them as a basis for checking our drivers' I.C.C. required log sheets. We can determine how much lay-over or breakdown time each driver encounters, thereby settling his pay. Also, through a control of just how fast a man drives his vehicle, we have been able to cut the number of times the tractor had to be put in the garage for overhauling due to excess speeding over-the-road.

All of these advantages have more than paid for the cost of the "Tachs" in less than one year's time. We thought you would like to pass this on to others and therefore we have tried to outline a few of the advantages we have found through the use of the "Tachs".

Very truly yours,

THE O. K. TRUCKING COMPANY

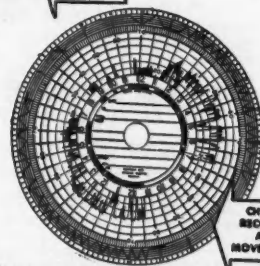
A. C. Menne
A. C. Menne, Secretary

acm/mf

The letter at left is typical of what many over-the-road truckers say about Tachographs. Today, these outstanding recording speedometers are used on thousands of trucks, tractors, trailers and buses. They pay for themselves over-and-over in added economy, safety and protection to drivers. You, too, can profit by installing Tachographs on the vehicles in your fleet. Write or send coupon below for complete information.



Mount the Tachograph on the dash. Connect speedometer cable. Insert chart at start of the run and you will get a complete record of each trip.



- WHEN ENGINE STARTED
- HOW LONG ENGINE IDLED
- WHEN VEHICLE STOPPED TO MOVE
- HOW FAST VEHICLE TRAVELED
- WHEN VEHICLE STOPPED
- DISTANCE TRAVELED BETWEEN STOPS

Mail This Coupon for Complete Information

Wagner Electric Corporation

6476 PLYMOUTH AVE., ST. LOUIS 14, MO.

Please send a copy of Bulletin SU-3B.

Name and Position _____

Company _____

Address _____

City _____ State _____

We operate _____ (NUMBER) Vehicles

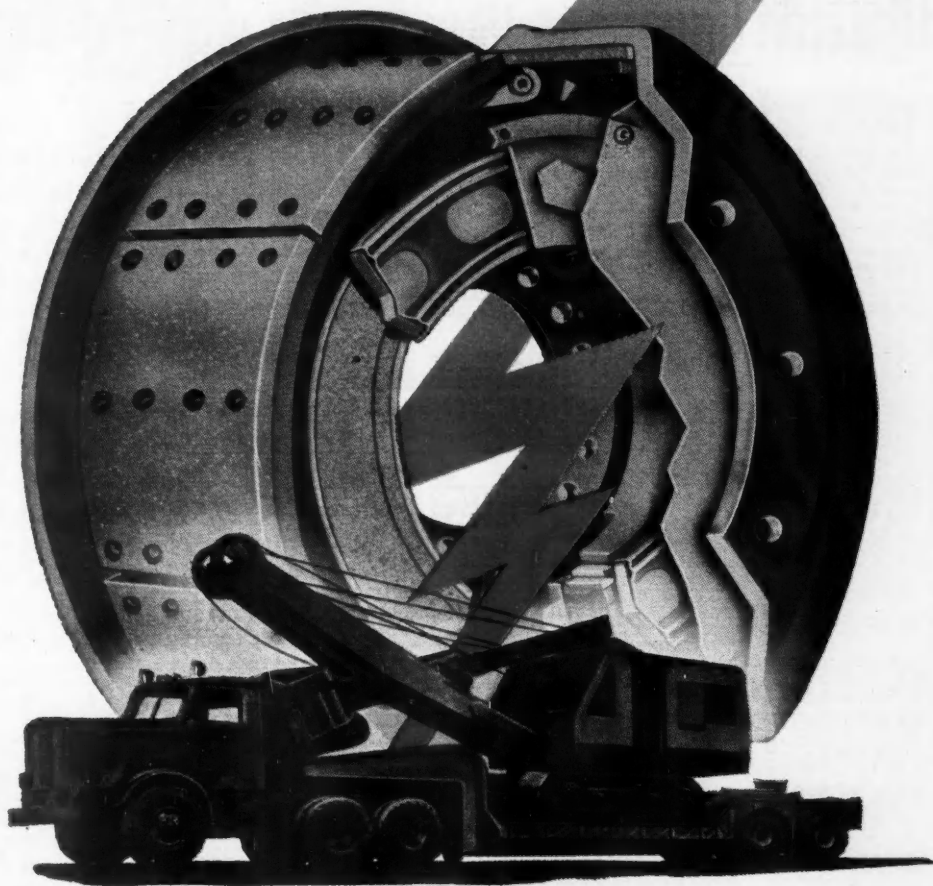
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DISTRIBUTED BY

Wagner
Electric Corporation

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE		Gross Vehicle Weight (See definition) For Normal Service	TIRE SIZES		ENGINE DETAILS					TRANSMISSION		REAR AXLE		FRONT AXLE	BRAKES			FRAME							
			Minimum Standard	Maximum Standard		Rear Standard Front and Dual rear S-single rear	Maximum Authorized (Dual size Tire size Size noted)	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft. H.P. at R.P.M.	Main Bearings Diameter and Length	Governor Standard	Make and Model	Make and Model	Gear and Type		Drive & Torque	Range in High	Make and Model		SERVICE			C-A Dimensions (Min. Std. W. B.)	Side Rail Dimensions	Type	
																						Lining Area	Drum Material	Drum Location				Make Type Location	Operation
Ford—Cont'd																												
1	Cowl, 1HT-84	1280	134	14000	3646.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
2	Cowl, 1HT-84	1310	134	14000	3646.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
3	Cowl, 1HT-84	1320	158	158	3796.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
4	Cowl, 1HT-84	1350	158	14000	3836.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
5	Cowl, 1HT-84	1360	176	14000	3926.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
6	Cowl, 1HT-84	1390	176	14000	3966.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
F-5, C.O.E.																												
7	Cab, 1HOW-81	1660	110	110	4346.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
8	Cab, 1HOW-81	1690	110	14000	4386.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
9	Cab, 1HW-81	1730	134	14000	4476.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
10	Cab, 1HW-81	1730	134	14000	4516.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
11	Cab, 1HW-81	1740	158	14000	4556.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
12	Cab, 1RSW-81	1770	158	14000	4586.6	50/20-6	7.50/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
F-5, School Bus																												
13	Bus CL, 1HST-84	1430	158	12000	3755.6	60/20-6	7.00/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	125.0	7.25	TL
14	Bus CL, 1HST-84	1460	158	12000	3795.6	60/20-6	7.00/20-8	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	125.0	7.25	TL
15	Bus CL, 1HST-84	1650	194	15000	4360.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	164.0	7.08	TL
16	Bus CL, 1HST-84	1680	194	15000	4390.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	164.0	7.08	TL
F-6																												
17	Cowl, 1HTH-84	1570	134	16000	3980.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.08	TL
18	Cowl, 1HTH-84	1600	134	16000	4020.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.08	TL
19	Cowl, 1MTH-84	1705	134	16000	4165.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8MTH	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.08	TL
20	Cowl, 1MTH-84	1735	134	16000	4205.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8MTH	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.08	TL
21	Cowl, 1HSTH-81	1640	158	16000	4090.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	84.00	7.08	TL
22	Cowl, 1MSTH-84	1745	158	16000	4235.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8MTH	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	84.00	7.08	TL
23	Cowl, 1MSTH-84	1745	158	16000	4275.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8MTH	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	84.00	7.08	TL
24	Cowl, 1HSTH-84	1650	176	16000	4130.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	108.17	7.08	TL
25	Cowl, 1HSTH-84	1680	176	16000	4170.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 7HT	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	108.17	7.08	TL
26	Cowl, 1MSTH-84	1785	176	16000	4315.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8MTH	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	102.37	7.08	TL
F-6, 1HOW-81																												
27	Cab, 1HOW-81	1925	110	16000	4549.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
28	Cab, 1MOWH-81	1955	110	16000	4589.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
29	Cab, 1HWH-81	2060	110	16000	4574.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	60.00	7.25	TL
30	Cab, 1HWH-81	1965	134	16000	4679.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	84.00	7.08	TL
31	Cab, 1HWH-81	1995	134	16000	4719.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	84.00	7.08	TL
32	Cab, 1HWH-81	2005	158	16000	4759.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	108.17	7.08	TL
33	Cab, 1H3WH-81	2035	158	16000	4789.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8HW	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	108.17	7.08	TL
34	Cab, 1M3WH-81	2140	158	16000	4774.7	50/20-8	8.25/20-10	6-3	3x4	4.226	6.180	95-3300-4	2-87x5-0	N	Ow 8MWH	4	Ow 8T	HF	H5-14-6.67	14-6.67	Ow 7HT	302	506	Co	TX	108.17	7.08	TL
F-7																												
35	Cowl, 1EQ-84	2935	135	19000	5785.25	20-10	10.0/20-12	6-3	3x4	3.376	4.555	145-3600-3	2-87x5-2	Y	Ow 8EQ	5	Ow 8T	HF	H5-29-7.40	29-7.40	Ow 7HT	444	697	Co	TX	61.00	9.34	TL
36	Cowl, 1EQ-84	2965	135	19000	5825.25	20-10	10.0/20-12	6-3	3x4	3.376	4.555	145-3600-3	2-87x5-2	Y	Ow 8EQ	5	Ow 8T	HF										

Announcing A NEW WARNER ELECTRIC BRAKE Expressly for Low-Bed Trailers

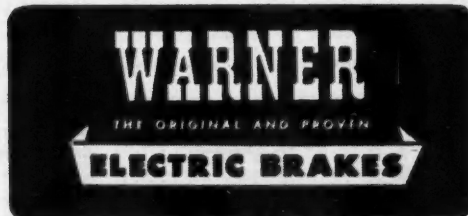


**EASILY STOPS 16,000 LB. AXLE LOAD ON 15" WHEELS
IDEAL FOR OFF-THE-ROAD LOW-BED OPERATIONS**

This new, extra powerful Warner Electric Brake is specially designed for the heavy loads, and unusual operating conditions encountered by low-bed trailers. 12¼" x 5½" size, this new brake incorporates the most advanced features of modern brake engineering — gives you an entirely new extra wide margin of safety. Its power is electric — *allowing faster, smoother and safer braking*. What's more this new brake is job-proven by more than 20 years of successful operation of Warner Electric Brakes by leading tractor-trailer operators everywhere. You can get complete information on this new brake and the entire Warner Electric Brake line by writing **WARNER ELECTRIC BRAKE & CLUTCH CO., Dept. CCJ, Beloit, Wisconsin.**

Quick Facts on the New Warner Electric Brake for Low-Bed Trailers

1. Only two flexible, small diameter wires lead to each brake — no hoses, diaphragms, pipes or tanks for under trailer mounting.
2. Simple cable connection to tractor makes all necessary electrical contacts.
3. Completely synchronized Warner System matches with hydraulic or air brakes on tractor.
4. "Vari-load" control pre-sets precise degree of braking power wanted.
5. Mounts inside 15" wheel — can be used with 7.50-8-25 or 10.00 x 15 tires.



SINCE 1927

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE		Gross Vehicle Weight For Normal Service	TIRE SIZES		ENGINE DETAILS					TRANS-MISSION		REAR AXLE			FRONT AXLE		BRAKES				C-A Dimensions (Min. Std. W. B.)	Side Rail Dimensions	FRAME		
			Minimum Standard	Maximum Standard		D-dual rear Single rear	Authorized (Dual size less noted)	No. of Cylinders	Displacement	Comp. Ratio	Torque lb. ft.	Main Bearings	Governor Standard	Make and Model	Forward Speeds	Make and Model	Gear and Type	Range in High	Make and Model	Lining Area	Drum Material	Drum Location	Head Location					
																											Make and Model	Operation
Four-Wheel-Drive																												
1	Reo-Convoy		170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
2			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
3			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
4			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
5			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
6			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
7			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
8			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
9			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
10			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
11			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
12			170	23000	6850	10.00/20	10.00/22	Own 331	6-4	14	331.6	4264	140-3200	7-39	408	Y-Cia 205V	5-Tim 1000	HF	H 6	10-7	4	422	748	var	TX	105 1/4	9 1/2	TL
13	Steering		143	26000	10375	10.00/20	11.00/22	Wau 140GKB**	6-4	14	525.6	4425	172-2700	7-31	1515	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
14			143	30000	11100	10.00/20	12.00/24	Wau 140GKB**	6-4	14	555.6	4450	183-2600	7-31	1515	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
15			143	30000	11100	10.00/20	12.00/24	Wau 140GKB**	6-4	14	555.6	4450	183-2600	7-31	1515	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
16			173	31000	13250	11.00/20	11.00/22	Cum NHB600	6-5	16	743.16	537.00	2100	7-31	1513	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
17			173	31000	13250	11.00/20	11.00/22	Cum NHB600	6-5	16	743.16	537.00	2100	7-31	1513	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
18			173	31000	13250	11.00/20	11.00/22	Cum NHB600	6-5	16	743.16	537.00	2100	7-31	1513	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
19			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
20			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
21			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
22			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
23			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
24			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
25			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
26			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
27			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
28			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
29			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
30			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
31			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
32			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
33			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
34			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
35			148	215	32000	8825	10.00/20	Wau 6MZA	6-4	14	404.5	629.0	130-3000	7-31	1512	Y-Fu 5A420	5-Tim 1000	HF	H 6	10-7	40T	560	930A	TX	67	9 1/2	A	
36	Steubaker	2R5	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
37		2R6	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
38		2R7	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
39		2R8	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
40		2R9	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
41		2R10	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
42		2R11	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
43		2R12	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
44		2R13	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
45		2R14	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
46		2R15	112	4000	2125	10.00/20	11.00/22	Own 1R	6-3	14	170.7	0.138	85-4000	2-2	151	N-Own 673519	5-Tim 1000	HF	H 4	8-9	4	170	276	CO21	50	7 1/2	A	
47	Ward La Fr.	D-1	149	220	25000	9100	10.00/20	Own 4R	6-3	14	245.7	0.205	102-3200	2-2	151	N-Own 680438	5-Tim 1000	HF	H 6	8-0	26	600	928	C	60	9 1/2	A	
48		D-2	149	220	25000	9100	10.00/20	Own 4R	6-3	14	245.7	0.205	102-3200	2-2	151	N-Own 680438	5-Tim 1000	HF	H 6	8-0	26	600						

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SEALED POWER PAX PISTON—Lo-Ex* virgin aluminum alloy with silicon base, which dissipates heat better. Special Eboniting process assures smoother-running engine, because piston surface is oil-impregnated, oil-absorbing. T-slot design, cam ground, with rugged internal design for extra strength and most efficient heat transfer.

SEALED POWER SLEEVE—uniformly machined from castings with unusually fine grain and dense molecular structure for extreme wear-resisting qualities.

SEALED POWER GI-60 CONTRACTING GROOVE INSERT—Puts spring-steel armor plate at point of greatest wear, the top ring groove. The only piston on the market in which this section can be replaced for a few cents.

SEALED POWER RING SET—Sealed Power Piston Rings, specifically engineered to do the best possible job in the make and model specified.

SEALED POWER PISTON PIN—Sealed Power Double Lapped Piston Pins of special analysis steel are triple heat-treated, and tested for hardness. Each pin is individually fitted to its own PAX Assembly.

*Registered trade mark of Aluminum Co. of America.

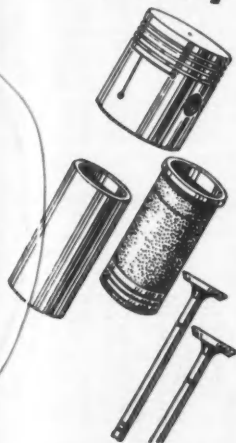


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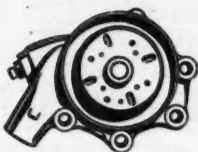
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HEAVY DUTY PISTONS—Aluminum or cast iron as indicated; exclusive T-slot design, cam ground, ruggedly designed, heat treated. Equal to or better than original equipment.

WET OR DRY SLEEVES—Machined from closely controlled castings, with exceptionally fine grain and dense molecular structure for long wear.

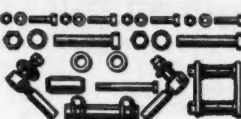
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WATER PUMPS—Manufactured from finest quality materials to highest standards. Our line is complete.



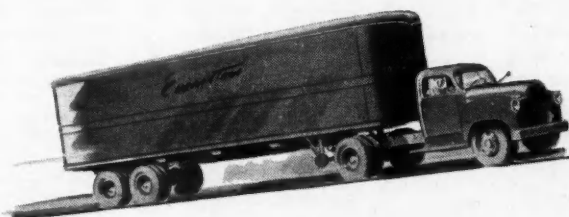
KING BOLTS & BUSHINGS—Manufactured from highest quality forgings, and heat treated to meet your exact requirements.



TIE RODS & SHACKLES—Sealed Power Tie Rods, Spring Shackles, and Front Wheel Suspension Parts meet specifications of original equipment.

Line Number	MAKE AND MODEL	WHEEL-BASE		TIRE SIZES		ENGINE DETAILS				TRANSMISSION		REAR AXLE		FRONT AXLE	BRAKES			FRAME										
		Minimum	Maximum	Standard	Authorized	Model	No. of Cylinders	Displacement	Comp. Ratio	Torque lb. ft.	H.P. at R.P.M.	Main Bearings	Governor Standard	Model	Forward Speeds	Model	Clear and Type	Drive & Torque	Clear Ratio	Model and Make	Make Location	Area	Drum	Drum Material	Hand Location	C-A Dimensions (Min. Std. W. B.)	Side Rail Dimensions	Type
154	EGY	154	154	8400	10.00/20	Wau MZA	6-4	404.5	12.00	130-3000	3-24	71	Y	OwN HGY	5	5	SF	H6.9-9.8	15.5-17.4	10.0-11.4	HRG	W61HV	504	775a	T4	89	7 1/2 x 3 1/2	TT
155	SU	155	155	10570	10.00/20	Wau SRKR	6-4	517.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
156	SU	156	156	11000	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
157	YU	157	157	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
158	YU	158	158	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
159	YU	159	159	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
160	YU	160	160	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
161	YU	161	161	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
162	YU	162	162	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
163	YU	163	163	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
164	YU	164	164	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
165	YU	165	165	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
166	YU	166	166	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
167	YU	167	167	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
168	YU	168	168	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
169	YU	169	169	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
170	YU	170	170	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
171	YU	171	171	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
172	YU	172	172	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
173	YU	173	173	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
174	YU	174	174	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
175	YU	175	175	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
176	YU	176	176	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
177	YU	177	177	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
178	YU	178	178	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
179	YU	179	179	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
180	YU	180	180	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
181	YU	181	181	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
182	YU	182	182	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
183	YU	183	183	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
184	YU	184	184	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
185	YU	185	185	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
186	YU	186	186	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
187	YU	187	187	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
188	YU	188	188	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
189	YU	189	189	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
190	YU	190	190	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
191	YU	191	191	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
192	YU	192	192	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
193	YU	193	193	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
194	YU	194	194	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
195	YU	195	195	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
196	YU	196	196	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
197	YU	197	197	11570	10.00/20	Wau 4100	6-4	525.6	12.00	126-2250	3-24	71	Y	OwN U	5	5	BF	H6.9-9.8	15.5-17.4	10.0-11.4	OwN U	LAHV	512	885a	T4	90	8 1/2 x 3 1/2	TT
198	YU	198	198	11570	10.00/20	Wau 4100	6-4	525.6	12																			

Get more miles per dollar...



*with Phillips 66 Philgas**

At today's low prices, Philgas propane-type fuel, a product of Phillips Petroleum Company, offers you remarkable savings in fuel costs!

LOW MAINTENANCE, TOO! You can expect twice as many miles between engine overhauls because Philgas burns *clean*! No cylinder wall washing. Long ring life. Low cylinder wear.

EASY, SAFE HANDLING! Completely enclosed filling systems eliminate the overflow, spillage and evaporation losses common with other types of fuel.

PHILGAS IS 100 OCTANE PLUS! This clean, dry gas distributes evenly . . . delivers smooth, sustained power even in high compression engines. And Philgas burns without smoke or exhaust odor.

AND REMEMBER, Philgas brings you all these advantages at low cost per mile compared to gasoline or diesel fuel. Savings can often pay the cost of converting in a few months!

EXPERT ASSISTANCE! Phillips Petroleum Company pioneered the use of propane in engines. Our

years of experience can save you time and expense in converting to Philgas. Write us for facts and figures. Our nearest office will gladly send a qualified engineer to explain the many immediate and long term advantages of Philgas. No obligation.

ALSO IMPORTANT! Experts in lubrication have produced a motor oil specially made to *stay on the job*! Helps protect engines under grueling long distance hauls. Give your equipment the benefit . . . the protection . . . of Phillips 66 Heavy Duty Motor Oil.

* A trademark of Phillips Petroleum Company



Philgas

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Offices in: AMARILLO, TEX.—First National Bank Building • ATLANTA, GA.—1226 Candler Building • CHICAGO, ILL.—7 South Dearborn • DENVER, COLO.—2185 Broadway • DES MOINES, IA.—Hubbell Building • PONTIAC, MICH.—2635 Orchard Lake Road • INDIANAPOLIS, IND.—1112 North Pennsylvania Ave. • KANSAS CITY, MO.—500 West 39th St. • MILWAUKEE, WIS.—424 Empire Building • MINNEAPOLIS, MINN.—212 Sixth St. South • NEW YORK, N. Y.—80 Broadway • OMAHA, NEB.—WOW Building • RALEIGH, N. C.—Capitol Club Bldg., 16 W. Martin St. • ST. LOUIS, MO.—4251 Lindell Boulevard • TULSA, OKLA.—1310 North Peoria • WICHITA, KAN.—501 KFH Building

IT TAKES THE **EXTRA POWER** OF
FEDERAL Trucks
TO MOVE BIG LOADS . . .



More power for bigger payloads . . . that's what every truck owner wants today. And, that's exactly what you get with new, extra-sturdy, extra-powerful Federals! You profit by the fact that Federal Heavy-Duty Trucks are all-truck, all the way through. Designed right . . . built right . . . powered right . . . Federal Trucks are backed by more than 41 years of

specialized truck building experience. This experience adds up to greater operating economy, lower maintenance cost and bigger payload profits for you. You'll find a wide range of models, both gasoline or diesel powered, with gross ratings to 90,000 lbs., designed to meet your most exacting requirements. Write for illustrated booklet today!

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FEDERAL

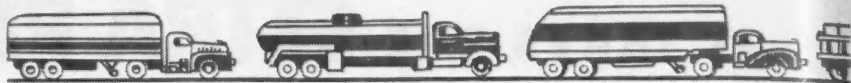


TRUCKS

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE		Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES		ENGINE DETAILS										TRANSMISSION		REAR AXLE		FRONT AXLE	BRAKES						C-A Dimensions (Min. Std. W. B.)	FRAME	
			Minimum Standard	Maximum Standard			Standard Front and Rear	Maximum Authorized Tire Size (Ducks unless noted)	Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M.	Number Diameter and Length	Main Bearings	Governor Standard	Make and Model	Forward Speeds	Make and Model	Gear and Type	Drive & Torque		Gear Ratio Range in High	Make and Model	Location Type	Operation	Lining Area	Drum Area		Drum Material	Hand Location
1	Ward La Fr. DIT-1	180	220	39500	10.00/20	11.00/20	Con T6427	6-4 1/4 x 5 1/2	427	340	152-2600	4-1/2	18 1/2	Y	Fu 5A434	15	15Tum SD3010P	2F	7-1	8-27	35017TW	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	10 1/2 x 14 1/2	DL	DL	
2	Ward La Fr. DIT-2	180	220	39500	10.00/20	11.00/20	Wau 140CZ	6-4 1/4 x 5 1/2	425	425	168-2400	4-1/2	18 1/2	Y	Fu 5C656	15	15Tum SD3010P	2F	7-1	8-27	35017TW	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	10 1/2 x 14 1/2	DL	DL	
3	Ward La Fr. DIT-3	180	220	39500	10.00/20	11.00/20	Wau 140CZ	6-4 1/4 x 5 1/2	425	425	168-2400	4-1/2	18 1/2	Y	Fu 5C656	15	15Tum SD3010P	2F	7-1	8-27	35017TW	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	10 1/2 x 14 1/2	DL	DL	
4	Ward La Fr. DIT-4	180	220	39500	10.00/20	11.00/20	Con T6427	6-4 1/4 x 5 1/2	427	427	168-2400	4-1/2	18 1/2	Y	Fu 5C656	15	15Tum SD3010P	2F	7-1	8-27	35017TW	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	10 1/2 x 14 1/2	DL	DL	
5	Ward La Fr. DIT-5	180	220	39500	10.00/20	11.00/20	Con T6427	6-4 1/4 x 5 1/2	427	427	168-2400	4-1/2	18 1/2	Y	Fu 5C656	15	15Tum SD3010P	2F	7-1	8-27	35017TW	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	10 1/2 x 14 1/2	DL	DL	
6	Ward La Fr. DIT-6	180	220	39500	10.00/20	11.00/20	Con T6427	6-4 1/4 x 5 1/2	427	427	168-2400	4-1/2	18 1/2	Y	Fu 5C656	15	15Tum SD3010P	2F	7-1	8-27	35017TW	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	10 1/2 x 14 1/2	DL	DL	
7	Ward La Fr. DIT-7	180	220	39500	10.00/20	11.00/20	Cum HRB600	6-5 3/8 x 6	743	500	150-1800	4-1/2	18 1/2	Y	Fu 5C721	15	15Tum SD3010P	2F	7-1	8-27	35017TW	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	10 1/2 x 14 1/2	DL	DL	
8	Ward La Fr. DIT-8	180	220	42000	11.00/20	11.00/20	Cum HRB600	6-5 3/8 x 6	743	540	165-1800	4-1/2	18 1/2	Y	Fu 5C721	15	15Tum SD3010P	2F	7-1	8-27	35017TW	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	TAIA	10 1/2 x 14 1/2	DL	DL	
9	White-Freightliner (e.o.e.)...WF64	176	220	19800	10.00/22	10.00/22	Cum NHB	6-5 3/8 x 6	743	575	200-2100	4-1/2	18 1/2	Y	Fu 5C721	12	12Own	WF	WF	H	8-6	27061	OATIA	OATIA	OATIA	OATIA	OATIA	OATIA	10 1/2 x 14 1/2	DL	DL	
10	White-Freightliner (e.o.e.)...WF64	176	220	19800	10.00/22	10.00/22	Cum NHB	6-5 3/8 x 6	743	575	200-2100	4-1/2	18 1/2	Y	Fu 5C721	12	12Own	WF	WF	H	8-6	27061	OATIA	OATIA	OATIA	OATIA	OATIA	OATIA	10 1/2 x 14 1/2	DL	DL	
11	White-Freightliner (e.o.e.)...WF64	176	220	19800	10.00/22	10.00/22	Cum NHB	6-5 3/8 x 6	743	575	200-2100	4-1/2	18 1/2	Y	Fu 5C721	12	12Own	WF	WF	H	8-6	27061	OATIA	OATIA	OATIA	OATIA	OATIA	OATIA	10 1/2 x 14 1/2	DL	DL	

For Key to References and Abbreviations See Page 81.

More and More Fleets



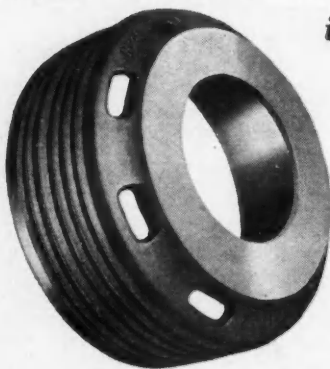
are switching to . . .



GUN IRON BRAKE DRUMS

ASSOCIATED TRANSPORT, INC.

is one of them . . .



Associated Transport operates over 3000 trucking units. In an operation of this size, replacement parts must prove their economy under widely varying conditions. In the case of brake drums, Associated Transport specifies Gun Iron Brake Drums for replacement.

Like other truckers, both large and small, they have found that Gun Iron Brake Drums wear longer and give uniform, dependable braking almost completely free of heat-checking or squeal. This is because the dense, close-grained structure of Gun Iron has great resistance to heat, with a very low coefficient of expansion (reducing "fade" to a minimum). In addition, its superior resistance to frictional wear has been conclusively proved to give more road-miles per drum.

Hunt-Spiller makes Gun Iron Brake Drums to original equipment specifications for most buses and trucks. They are accurately machined for easy, kink-free installation and are fully guaranteed. Investigate today how Gun Iron Drums will reduce your replacement costs and eliminate hours of brake service per unit.

SEND FOR FREE BULLETIN

This bulletin gives the whole story on Gun Iron Brake Drums. It also contains actual proof of their economies on buses and trucks.



HUNT • SPILLER

MANUFACTURING CORPORATION

AUTOMOTIVE DIVISION

399 DORCHESTER AVENUE • SOUTH BOSTON 27, MASS.

**Different Fleets . . . Different Operators
BUT THE SAME TIRE FOR ALL**

Firestone



EVERY YEAR more and more operators are switching to Firestone Tires. On mountain runs, desert runs, across the plains and along the coast, day and night on all kinds of roads, in all kinds of weather, Firestone Tires are setting low-cost mileage records.

The men who buy Firestone Tires and the men who drive them all say that Firestone Tires are giving extra miles of service and greater safety. You'll find the consensus of opinion to be that Firestone Tires give better all-around performance on front wheels, drive wheels, and on trailer wheels.

Test them against any tire and see if they don't give you more original mileage, more re-cap mileage and — most important of all — lower cost mileage and greater safety.

**When Buying New Tires or New Equipment Always Ask for
FIRESTONE TRUCK TIRES**

FOR EVERY LOAD, ROAD AND CONDITION OF SERVICE



Enjoy the Voice of Firestone on radio or television every Monday evening over NBC

Copyright, 1951, The Firestone Tire & Rubber Co.

GMC Builds M-135 for Army

GMC Truck & Coach Division is ready to build an entirely new military 6 x 6 truck equipped with the Hydra-Matic drive. The new M-135 tactical vehicle is bigger, faster, lower, easier to drive, easier to maintain and able to carry heavier loads than its predecessor.

Powered by a new GMC 6-cyl (302 cu in.) engine, developing 145 hp, the 6 x 6 hits a maximum speed of 58 miles per hour carrying a 10,000-lb load. It also is equipped with "snorkel" devices for traveling submerged in water on deep-fording operations.

The Hydra-Matic operates through

two gear ranges—a high and low—providing a combination that relieves the driver of all discretion in connection with gear selection except for shifting between the high and low ranges. The entire transmission control and the selection for automatic front-wheel drive engagement is accomplished by one lever on a knee-high tower in the driver's compartment.

Automatic front wheel drive engagement, an innovation scientifically designed to have the proper relationship between the front and rear axles, occurs in the transfer case to provide extra traction when needed. The front axle is free-rolling in highway service when power delivered only to the two rear axles. When the truck hits rough terrain, however, power is automatically applied to the front wheels when the rear wheels lose traction.

Another important feature of the new M-135 is the use of torque rod suspension for the front axle in combination with regular leaf springs, which will provide greater riding comfort for the driver and faster speeds over rough terrain.

Rear springs also have been changed. A fixed secondary spring was added over the articulated main spring. The secondary spring also helps carry the load and permits the truck to be overloaded without highly stressing the main spring and without materially reducing riding clearance.

In load carrying capacity over the highway, the new model carries five tons and can tow five tons, compared to the older model capacities of two and one-half tons and two tons, respectively.

Another feature is a 24-volt electrical system, which is dustproof, water-proof, fungus proof and suppressed against radio interference.

Although the overall length of the new truck is 267 in., 11 in. longer than World War II model, it is two inches lower at 105 in., and has a shorter wheelbase. It weighs 12,200 lbs empty, compared to 10,800 lbs for its predecessor.

One of the most important considerations in developing the new model was to make it easy to service and maintain. Every part and every sub-assembly was designed to make them removable and replaceable with a minimum of effort, which often is a vital time factor in field operations.

The spare tire carrier, for instance, is of a type which allows the tire to be placed in position for changing without lifting it by other than hinged means. It is light in weight, simple, and not vulnerable to damage. The only tool required is the wheel wrench.

Cracked block repairs



★ **FAST!**

★ **SIMPLE!**

★ **PERMANENT!**

REPAIRS CRACKS
IN ENGINE BLOCKS AND HEADS
IN HEATING SYSTEMS, RADIATORS
SEALS
INTAKE GASKETS, CYLINDER SLIPPER
WIRE CONNECTIONS, WELD LEAKS

For the few blocks that have cracks, too large or too numerous to be repaired by MET-L-SEAL alone, take them to the automotive machine shop in your area that offers Versnick Block Repair Service.

With the Versnick Process—and with Versnick taper plugs, cylinder and valve port sleeves and MET-L-SEAL—even the most difficult cracked block jobs can be repaired permanently and economically.

For complete information write Versnick Manufacturing Company, 4700 East Nevada, Detroit 34, Mich.

Here's the better way to seal minor cracks in motor blocks and heads—Versnick MET-L-SEAL, the new ionized iron compound.

MET-L-SEAL has been developed, tested and proven by America's top motor block repair specialists. It works fast, seals permanently because its fine-mesh particles of iron oxidize together as fast as they enter the crack. Just circulate it through the cooling system.



CCJ News Reports

Continued from Page 27

International To Entertain ATA

The first general luncheon of the 18th annual American Trucking Associations convention will be held on Monday, October 22, in the Grand ballroom at the Stevens Hotel here with the motor truck division of International Harvester Co. as host.

Sales Executive Dies

Announcement has been received of the sudden death of "Mickey" Littauer, district manager of P. & D. Manufacturing Co. for New England. Mr. Littauer maintained his offices in Pittsfield, Mass., but was a resident of Union City, N. J. He had been with P. & D. in various territories of the U. S. and Canada for 16 years.

New Oil Series Developed

Announcement has been made of a new series of heavy duty engine oils, developed by the Texas Co., New York. The new line is called "Ursa Oil X Sup.

One" and is available in SAE grades 10, 20, 30, 40 and 50.

The manufacturer said that the oil series had been developed primarily in response to a demand for a heavy-duty oil for the lubrication of engines of high efficiency, operated under heavy-duty conditions.

Beg Pardon, Please Correct

An alert reader in St. Louis, Mo., caught an error in the total line of the CCJ Board of Experts report in the June issue of COMMERCIAL CAR JOURNAL, Page 68. Table 3 indicated an average use of old style rims at 49.86 per cent and a wide rim figure of 50.14 per cent. An investigation disclosed a clerical error, where an unrevised set of figures were used. This line should read: Old Style, 42.03 per cent--Wide Base, 57.97 per cent. Better make the change.

(TURN TO PAGE 234, PLEASE)

1951 Truck Trailer Shipments*

	April	Four Months
Vans:		
Insulated and refrigerated....	312	1,491
All other closed-top.....	2,386	11,437
Open-top	275	1,552
Total Vans	2,973	14,480
Platforms:		
With cattle and stake-racks..	206	635
With grain bodies	42	200
All other	822	3,239
Total Platforms	1,070	4,074
Tanks:		
Petroleum	373	1,545
All other	49	160
Total Tanks	422	1,705
Pole and Logging:		
Single axle	70	428
Tandem axle	260	621
Total	330	1,049
Low-bed heavy haulers.....	206	745
Dump trailers	139	380
All other trailers	306	1,585
Total Complete Trailers..	5,446	24,018
Trailer Chassis	352	1,066
Total Trailers and Chassis	5,798	25,084

* Industry Division, Bureau of the Census.

1951 Domestic Truck Factory Sales by G.V.W.*

	5,000 lb. and less	5,001-10,000	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	Over 26,000	Total
January	50,435	21,029	6,476	16,957	5,528	5,657	3,180	109,262
February	43,207	16,940	6,639	14,767	4,676	5,320	3,285	94,834
March	52,948	25,003	9,487	17,987	3,719	5,786	3,305	118,235
April	51,290	21,638	11,179	18,605	5,165	6,304	3,302	117,483
May	52,991	22,082	11,389	19,837	5,052	6,652	3,461	121,464
Total—5 Mos. 1951....	250,871	106,692	45,170	88,153	24,140	29,719	16,533	561,278
Total—5 Mos. 1950....	225,889	98,283	33,388	69,137	16,579	14,367	9,773	467,416

*Automobile Manufacturers Association.



AM

TRAILER



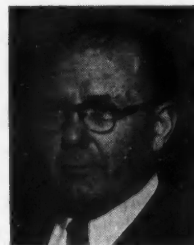
* ALUMINUM-MAGNESIUM

IT IS DURABLE IT IS LIGHT IT CARRIES NO
GREAT PREMIUM PRICE IT INCREASES THE PAY LOAD

KENTUCKY MANUFACTURING COMPANY R. C. Tway Company, Incorporated, Owner
2601 SOUTH THIRD STREET, LOUISVILLE 8, KENTUCKY

INTRODUCING . . .

...DR. KENNETH MCFARLAND, nationally-known school executive and public speaker, named educational director for American Trucking Associations. Dr. McFarland will also continue to serve as educational consultant and lecturer for General Motors Corp. and as guest lecturer for Reader's Digest magazine.



...BRUCE V. WALCH, manager of the field service department of Four Wheel Drive Auto Co., Clintonville, Wisc.

...JOHN F. APSEY, JR., advertising manager of the Black & Decker Mfg. Co., Towson, Md., was elected president of the National Industrial Advertisers Association in New York.



...N. R. BROWNER, now in charge of the new field sales and service engineering department, Timken - Detroit Axle Co.

...A. PATRICK NAGEL, director of industrial relations for Willys-Overland Motors, Inc., Toledo, Ohio.



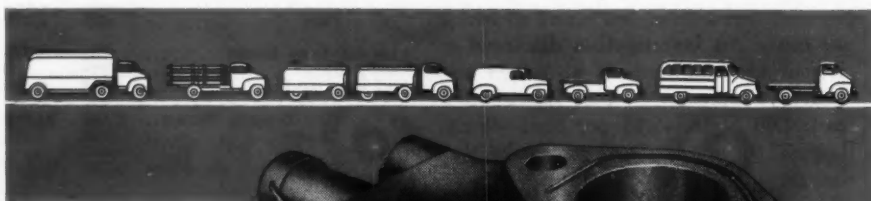
...WILLIAM M. TOBIN, manager of the Washington, D. C., branch, White Motor Co.

...ALBERT H. BOYNTON, training director, Pacific Intermountain Express, and EVERETT M. STEPHENS, sales trainer.



...S. E. BIGGS, a Trailmobile vice president, now a member of the truck-trailer industry advisory committee, NPA.

...JOHN E. KALGREN (left), new plant manager and ALVIN L. McMULLEN, production superintendent, Seiberling Rubber Co., Akron, Ohio.



This kind of

HOARDING IS LEGAL!

Here is what was accomplished just by the installation of Handy Governors on the vehicles of 180 truck fleets. The saving on tires was found to be 22.6%, on engine repairs 32%, on fuel 13.5%, on lubricants 26%, on brake maintenance 29.2% and general maintenance 26%. Furthermore it reduced insurance 16% and cut the cost of accidents 37%.

In the face of war shortages which will certainly get progressively worse is there any better way to conserve equipment and at the same time make substantial dollar savings? This kind of hoarding is not only legal but it pays good dividends.

Write for quotation on equipping the vehicles of your fleet with Handy Governors.

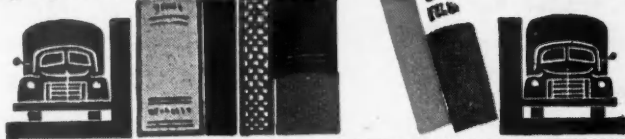


KING-SEELEY CORPORATION

ANN ARBOR, MICHIGAN

PLANTS AT
ANN ARBOR, SCIO,
YPSILANTI

Fleetman's LIBRARY



"New Lessons In Arc Welding" is a new 320-page book containing 61 lessons in welding, and 161 pages of practical instruction given at the Lincoln Arc Welding School. The book covers practical instructions for beginning and advanced welders. It is available from Lincoln Electric Co., Cleveland, Ohio. The price, \$1.50.

General Electric has published a brochure which pictorially presents typical communications systems now in use, which can be coordinated into a dependable emergency communications network in any community as a part of the community's civil defense preparations. The brochure also describes the company's technical advisory service for civil defense radio communications. Copies are available from Dept. N-5 G-E Advertising Division, Syracuse, N. Y.

Hunter Advisory Bulletin will provide information on the transportation of perishable cargoes. The bulletin has 4 pages of discussion about the correct methods of protecting the vehicle equipping the coolant mechanism, and the proper storage of the cargo. Copies are available from Hunter Mfg. Co., Cleveland, Ohio.

Highway Safety Bulletin No. 36, issued by the National Council of Private Motor Truck Owners, Inc., Washington, D. C., gives information for all safety minded operators. It tells how you can receive recognition for safe driving performance or improvement in such performance for your operators. The award period is for 12 months beginning January 1, 1950 or later. Three classifications of awards are made for 100 per cent, 40 per cent and 20 per cent reduction in vehicle accident frequency or improvement in vehicle accident record.

"Management by Exception," Remington Rand's new handbook, describes a method whereby management men can conserve the time and effort they are now obliged to put on routine operations. The pamphlet features the advantages in using Kardex Visible Files. Write for booklet KD 613 to Management Controls Division, Remington Rand Inc., 315 Fourth Ave., New York 10, N. Y., and mention COMMERCIAL CAR JOURNAL.

How to Run a Drill Press is the title of a new instruction manual of 32 pages published by South Bend Lathe Works, South Bend 22, Ind. As the name implies, this book has been prepared as a companion to the book announced in a previous issue of COMMERCIAL CAR JOURNAL "How to Run a Lathe." This new book is devoted exclusively to the small drill press. It contains a wealth of practical information of value to the experienced machinist as well as the beginner. It includes the care, operation, and function of all important parts with the correct adjustment of each. Copies may be obtained from South Bend for 25 cents, postpaid.

MIKE IT RIGHT...



CENTRAL MIKE SAYS:
"HERE'S THE FIRST
BIG IMPROVEMENT
IN MICROMETERS
IN YEARS!"

For rapid, sure-fire readings you can't beat Central's Read-Rite Micrometer. There's no guesswork or chance of costly mistakes — the Read-Rite almost reads itself. As you turn the thimble, numbers in the windows give the measurement at a glance, eliminating the computations usually required in taking micrometer readings.

Think what the direct-reading feature can mean in speeding up measurements and eliminating costly errors! The Read-Rite is a real time and money saver — it pays for itself on the first major job and it's made to give a lifetime of Central Certified Accuracy.

The Read-Rite is available in two polished frame models, 0 to 1" (illustrated) and 1" to 2", and six black enameled frame models with a combined range of 0 to 6". See your jobber or write for bulletin.

THE CENTRAL TOOL COMPANY
474 WELLINGTON AVE., CRANSTON 10, R. I.

CENTRAL
Certified
Accuracy
MICROMETERS

FOR HALF A CENTURY
SPECIALISTS IN FINE MICROMETERS

New Fruehauf Van Has Nailable Steel Floor

Model FDL Fruehauf corrugated van trailer has the new nailable floor and is supplied in both the closed dry-freight and open-top van types

THE NEW MODEL FDL Fruehauf trailer, an all-steel van, has a nailable floor, an important innovation in trailer construction. The model is said to have all of the strength advantages inherent in its welded steel construction while at the same time, due to the new floor, it is 500 lb lighter than similar van designs. There is no structural wood employed in this trailer.

The all-steel construction gives a sturdy, box-like structure providing greater durability. In addition to strength and weight saving qualities, the nailable steel floors have other advantages. The surfaces will withstand the shock of rough freight and fork-truck loading, as well as abrasions, impacts, rust and corrosion. In the event that service to a section of the flooring is needed, these sections are replaceable in small areas.

Still another advantage of the new flooring is the nail-holding power made possible by planned groove-spacing. There are spacers placed on both male and female sides of the channel. Nails driven into these spaces are clenched, and have a greater holding power than nails driven into hardwood floors.

The new unit is supplied in both closed, dry-freight and open-top van types. It is built in sizes from 20 ft to 35 ft in length, with capacities of 20,000 lb and 25,000 lb in the single axle models. The tandem axle job is rated at 18,000 lb per axle.

Mechanical Features

SINGLE AXLE units are provided with Fruehauf's "multi-rate" spring suspension, while the tandem models are provided with a patented gravity-tandem suspension with torsion bar springs.

Structurally, the new trailers follow the standard Fruehauf construction practice, with rigid high-tensile

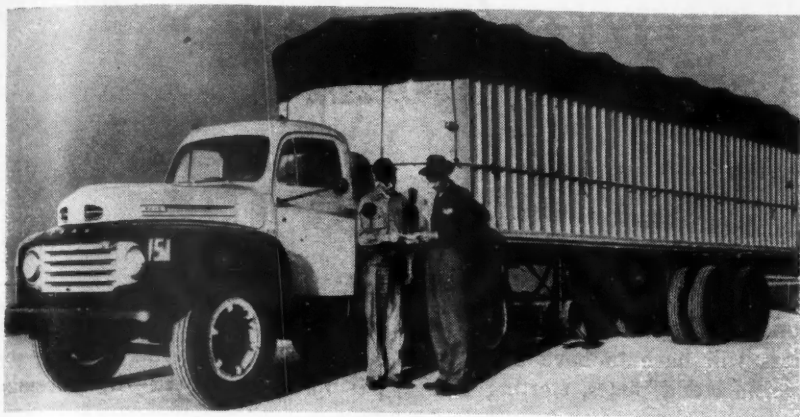
steel channels laid lengthwise over the frame and cross-members. These channels are welded into position. Each third vertical post is a box-type column created by over-lapping the side panels. This is said to add strength and rigidity to the entire unit.

The cross members, made from high-tensile steel, are die formed with wide flanges, gusseted at the end. This also is said to contribute heavily to the over-all strength of the body structure.

AP



Mileage Getting
Mufflers



The nailable floor feature is available in either open or closed top models

On the closed-roof model, the roof is a steel assembly welded directly to the sides. It is combined with a cap rail which adds to the top protection. Both bulkheads and the front panel are re-enforced by steel guard rails constructed of welded, single-piece units. These act as scuff-bars protecting the sides and front of the trailer from occasional bumps.

The models have heavy-duty brakes with molded linings, tapered for maximum drum contact and long life. The brake system in the standard job operates on vacuum, with an air system as optional equipment at a slight extra cost.

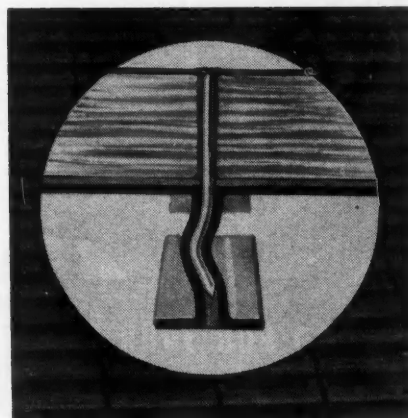
Production has started on these new trailer models and deliveries will be made in the near future.

NO USE TUNING UP THE ENGINE IF THE MUFFLER IS CLOGGED

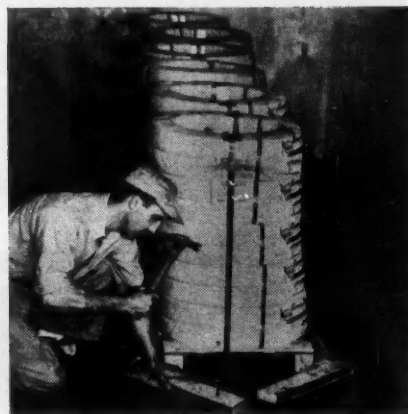
"The engine popped and cracked and gas shot out of the carburetor. I fixed the valves. No dice. I put in new distributor and caps. Still no dice. I thought I was whipped for the first time in 32 years. Then I found the muffler was 90% clogged—I put on a new one. Success!"

—A Mechanic
(Name on request)

THE AP PARTS CORPORATION • TOLEDO 1, OHIO
Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf-123



A curved groove between the nailable floor sections gives clinching effect when nails are driven into the groove



Questions and Answers on the New York Truck Mileage Tax

UNDER ARTICLE 21 of the new New York State Truck Mileage Tax, some 150,000 heavy trucks, tractors,

trailers and semi-trailers of 35,000 carriers will have to have highway use permits and plates, starting Oc-

tober 1, and the carriers will have to start filing monthly tax returns—and paying a mileage tax—by November 20.

The tax applies to both interstate and intrastate operations, regardless of whether a vehicle is registered in New York State or elsewhere.

Two factors govern the tax: (1) Maximum gross weight, starting at 18,001 lb, and (2) number of miles operated in New York State.

The law defines maximum gross weight to mean the weight of the vehicle plus the weight of the maximum load it is capable of carrying—but not less than the manufacturer's maximum rated capacity. Operation of a vehicle with a weight greater than the maximum gross weight of the vehicle as set forth in its permit is a violation of the Highway Use Tax Law.

Tax rates are graduated, starting at six-tenths of one cent per mile for a truck or tractor-trailer having a maximum gross weight of 18,001 to 20,000 lb, and ranging upward to 2.4 cents per mile for a truck or tractor-trailer having a maximum gross weight of more than 62,000 lb.

Not a Ton-Mile Tax

THIS is not a "ton-mile" tax. Under the so-called ton-mile tax, the rate of tax for a given trip is determined by *actual* gross weight. Under the New York law, the rate is always determined by *maximum* gross weight, regardless of the actual weight of the load, unless the vehicle is entirely empty. When a vehicle is operated empty, its mileage is taxed on a basis of unladen weight.

The New York law is an adaptation of the Oregon weight-distance tax.

First requirement of the new law is that of the highway use permit and plate, which must be obtained for every vehicle subject to the law in order to operate legally on New York highways after September 30.

Following are some of the ques-
(TURN TO PAGE 108, PLEASE)



GOOD FOR YOUR BUSINESS

Even under toughest operating conditions you're safe in choosing Burd Super Hi-Speed Piston Rings. They're good for restoring power and compression. They're good for controlling oil. They always come through with what you expect from top-notch piston ring performance. Try a set of Super Hi-Speeds and watch results. You won't be disappointed!

BURD PISTON RING CO.
DIVISION OF
THE GABRIEL COMPANY
Rockford • Illinois

BURD
AUTOMOTIVE
PRODUCTS



load sloppy... go flooey!

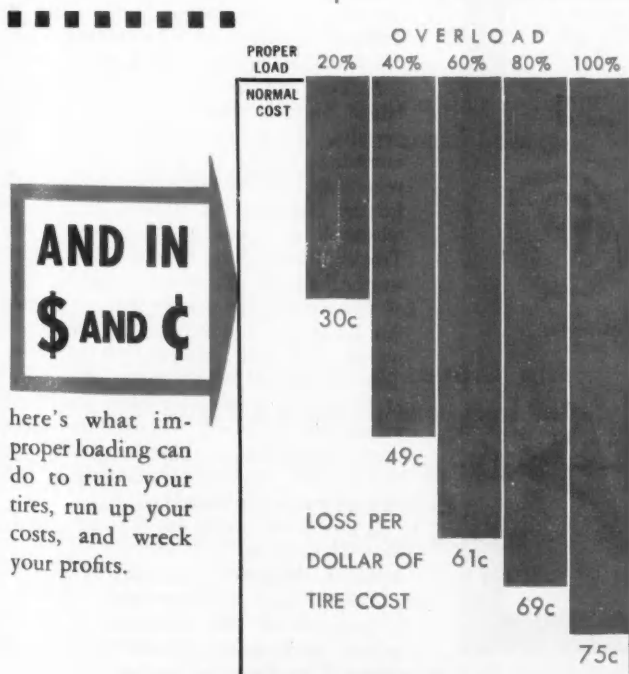
Sloppy loading may cause you all kinds of unsuspected tire grief and losses. Here—for a quick understanding of what improper loading can cost—is the Lee Chart that tells its own story:—

OVERLOADING

Abnormal flexing	Generates excess heat	Heat blowouts Weakened cords and plies Softens tread rubber	Tires ruined or mileage reduced No recappable carcasses Road breakdowns
	Weakens cords and adhesion	Tube chafing and pinching Broken cords Carcass and tread separations	
	Excessive bead action	Bead failures Tube pinches	
Buckles center of tread	Rim cuts and bruises	Sidewall breaks	Damage to wheel bearings and steering mechanism Reduced tire mileage
	Prevents full contact of tread on road	Cupping and irregular wear Excessive wear on tread shoulders Hard steering	
	Tread squirming	Fast, uneven tread wear Tread cracking	

IMPROPER LOADING

Overloads some tires	See overloading	Wasted fuel Strain on motor Fast tread wear	Reduced tire mileage Increased repair and replacement
Underloads other tires	Spins driving wheels Unbalanced braking	Excessive brake lining wear Fast tread wear	



USE THIS CHART when making a spot check of your fleet! After you recover from estimating your losses, *send for us*. Under all kinds of conditions, on all kinds of trucks, we've had loads of experience in loading for savings. Address



LEE RUBBER & TIRE CORPORATION • CONSHOHOCKEN, PA.

New York Truck Mileage Tax

Continued from Page 106



This plate will be displayed by trucks under the new law.



A good signal deserves a good switch. Arrow's N260 is the finest on the market! Built-in flasher, built-in fuse protection, positive proof indication that lights as well as switch are functioning. Unconditionally guaranteed!



Arrow Safety Device Company
Mount Holly, New Jersey

New Arrow Class "A" DIRECTIONAL SIGNALS

The Arrow Class "A" Directional Signals shown above have 4-inch amber sealed-beam units. Baked-on black enamel finish. Available for 6 or 12 volt systems. Model N107 can be mounted on the fender or on the rear of truck or tractor. Model N109 has a recessed body for flush mounting.

See your jobber salesman today for Arrow Directional Signals and the complete line of Arrow Safety After Dark Equipment.



Here's a Complete Class "A" Kit

Arrow Kit No. 12 gives you everything you need for the latest approved protection. 2 N107 signals, 2 N109 signals, 1 N260 switch.

safety after dark



tions which have been raised on the matter of permits—and the authoritative answers from the New York Tax Commission:

Q. Must a permit be obtained for all vehicles?

A. A permit must be obtained for every motor vehicle operated on the public highways of New York State having a maximum gross weight, alone or in combination with any vehicle, in excess of 18,000 lb.

Q. Does "motor vehicle" include a trailer?

A. Yes, it includes a trailer, semi-trailer, dolly, or other device drawn by a motor vehicle which has a maximum gross weight, alone or in combination with any other vehicle, in excess of 18,000 lb.

Q. If a tractor and trailer are operated as a unit, must separate permits be obtained for the tractor and trailer?

A. Yes.

Q. Must a permit be obtained for a motor vehicle operated exclusively within the incorporated limits of a city or village in New York State?

A. Yes.

Q. How is a permit obtained?

A. By filing an application (Form TMT-1) with the Truck Mileage Tax Bureau, 1893 Broadway, Albany, N. Y. A permit (Form TMT-2) for each vehicle must be completed and submitted together with the application.

Q. Should any fee accompany the application?

A. Yes, a fee of \$5 must be submitted for each motor vehicle for which a permit and plate will be issued.

Q. Should a separate application be filed for each motor vehicle?

A. No, the original application should be filed for all the motor vehicles owned or operated by the applicant.

Emergency Permit Service

Q. May a permit be obtained immediately, if an emergency requires the immediate operation of a motor vehicle on the highways of New York State?

A. Yes, 24-hour service will be maintained for the processing of requests for permits. If an emergency requires the immediate use on the highway of a motor vehicle or a motor vehicle enters the State for the first time, the carrier thereof may telegraph a request for a permit to the Truck Mileage Tax Bureau, 1893 Broadway, Albany, N. Y., accompanied by a fee of \$5. The collect telegraphic reply from the Bureau will constitute an emergency permit, and will authorize the motor vehicle to operate in this State for a period of 15 days only after the date thereof. A permit and plate will thereafter be issued, upon application, without any additional charge. The reply telegram must be carried in the motor vehicle.

Q. Must the permit fee for each vehicle be paid annually?

A. No, this is not an annual charge. The permit is valid until revoked, suspended or surrendered. No additional fee is required as long as the motor vehicle is operated by the same carrier.

(TURN TO PAGE 110, PLEASE)



Inside story of the **AUTHORIZED** Reconditioned Ford Engine

that gives you new-engine
performance at about half the cost!

Install an **AUTHORIZED Reconditioned Ford Engine**
in your cars or trucks and get new-engine perform-
ance at about half the cost of a new engine!

You can add up to 50,000 miles or more of useful service . . . get better mileage on fuel . . . minimize costly "down-time." Every **AUTHORIZED Reconditioned Ford Engine** carries the same kind of warranty as a new engine. Complete unit installation in one day by appointment. Easy payment plan may be arranged. *See your Ford Dealer today.*

Save money on maintenance costs with
these **AUTHORIZED Reconditioned Ford Units!**

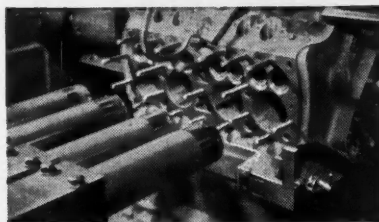
CARBURETORS	VOLTAGE REGULATORS
FUEL PUMPS	GENERATORS
DISTRIBUTORS	STARTING MOTORS
	BRAKE SHOES



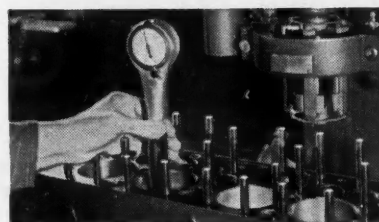
Look for this emblem

on the engine or reconditioned units you buy. It's your assurance of quality backed by the Reconditioner's Warranty: any defects in materials or workmanship appearing in 90 days or 4000 miles (whichever occurs first) will be remedied at no extra cost.

Reconditioned by factory-precision machines to Ford-factory standards in a Ford-inspected plant.



Modern multi-reboring machine insures accurate alignment of cylinder bores.



Honing of cylinder bores assures proper seating of rings for new-engine performance.

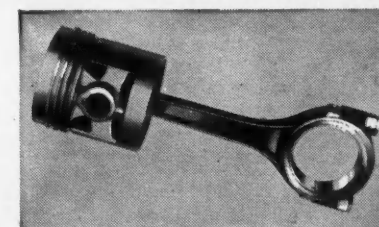


All camshaft bearing surfaces are completely reconditioned to exact factory tolerances.

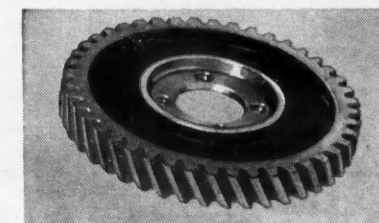


Valve seat inserts are ground and refinished with factory-approved equipment.

Over 150 new or completely
Reconditioned **GENUINE Ford Parts**



Consider for example the high quality of this Genuine Ford Piston . . . made right to fit right to last longer. Best aluminum alloy . . . tin plating for break-in . . . steel reinforcement strips for controlled expansion.



Or this new timing gear—laminated construction gives more internal strength than found in ordinary gears. Materials of highest quality are bonded together under extreme heat and pressure.

New York Tax

Continued from Page 108

Q. If a motor vehicle is leased for a period of 30 days or less, who obtains the permit?

A. The owner.

Q. If a motor vehicle is leased for a period of more than 30 days who obtains the permit?

A. The lessee, if under the terms of the lease he is in complete control of the motor vehicle; otherwise, the owner.

Q. May the permit and plate be transferred or assigned?

A. No.

Q. If either the permit or the plate is lost or destroyed, may a new one be obtained?

A. Yes, the Commission will issue a new permit or plate upon proof of the facts and the payment of \$1.

Q. Must the permit be kept in the motor vehicle for which it was issued?

A. Yes.

Q. Must the plate be affixed to the motor vehicle?

A. Yes, and it must always be visible and legible.

Q. Where must the plate be affixed on a truck?

A. At the rear of the truck, as near as possible to the registration plate.

Q. Where must the plate be affixed on a tractor?

A. At the front of the tractor, as near as possible to the registration plate.

Q. Where must the plate be affixed on a trailer or semi-trailer?

A. At the rear of the trailer or semi-trailer, as near as possible to the registration plate.

The Tax Rates

THE tax is computed by determining the rate of tax for a vehicle from the following table based on its maximum gross weight and by multiplying the total mileage within the State, by such rate.

RATE TABLE

Gross Weight of Vehicle	Weight Group Tax Rate
1. 18,001 to 20,000 inc.	\$0.006
2. 20,001 to 22,000 inc.	.007
3. 22,001 to 24,000 inc.	.008
4. 24,001 to 26,000 inc.	.009
5. 26,001 to 28,000 inc.	.0095
6. 28,001 to 30,000 inc.	.010
7. 30,001 to 32,000 inc.	.0105
8. 32,001 to 34,000 inc.	.011
9. 34,001 to 36,000 inc.	.0115
10. 36,001 to 38,000 inc.	.012
11. 38,001 to 40,000 inc.	.0125
12. 40,001 to 42,000 inc.	.013
13. 42,001 to 44,000 inc.	.014
14. 44,001 to 46,000 inc.	.015
15. 46,001 to 48,000 inc.	.016
16. 48,001 to 50,000 inc.	.017
17. 50,001 to 52,000 inc.	.018
18. 52,001 to 54,000 inc.	.019
19. 54,001 to 56,000 inc.	.020
20. 56,001 to 58,000 inc.	.021
21. 58,001 to 60,000 inc.	.022
22. 60,001 to 62,000 inc.	.023
23. 62,001 to legal limit	.024

How the Tax Is Figured

HERE in Q & A form, are some illustrations of how the mileage tax is computed under the New York law:

Q. A motor vehicle having a maximum gross weight of 52,000 lb. and an unladen weight of 18,500 lb. travels 300 miles with a load and, after discharging the load, travels 200 miles empty. What is the tax for this trip?

A. $300 \times \$0.18$, or \$5.40, plus $200 \times \$0.06$, or \$1.20, or a total of \$6.60.

Q. A motor vehicle having a maximum gross weight of 45,000 lb., and an unladen weight of 16,000 lb., travels 300 miles, fully laden, and discharges that load; travels 100 miles empty, then picks up a partial load and travels 200 miles. What is the tax for this trip?

A. Since the actual weight of the vehicle was less than 18,001 lb. when operated empty there would be no tax on the 100 miles and the tax would be $300 \times \$0.15$, or \$4.50, plus $200 \times \$0.15$, or \$3.00, making a total of \$7.50.

Q. When a laden tractor and trailer combination is operated as a unit how is the rate of tax determined?

(TURN TO PAGE 228, PLEASE)



Biggest seller in the oil absorbent field **SOL-SPEEDI-DRI**

You're missing something good if you haven't discovered SOL-SPEEDI-DRI. It will keep your floors slip-proof, improve their appearance, and save you money on maintenance. It's the sales leader in the oil and grease absorbent field—because, all factors considered, it gives more for your money. Send coupon today for generous sample and descriptive folder.

Warehouse stocks maintained in principal cities of the United States and Canada.

Inquirers in New York, New England, and New Jersey should write to Speedi-Dri Corp. Elsewhere in U.S. to Waverly Petroleum Products Co., 1724 Chestnut St., Philadelphia 3 Pa.

SPEEDI-DRI CORP., 210 W. Washington Sq., Phila. 5, Pa.

FREE SAMPLE:
Fill out the coupon and mail today for big, free sample and literature.

When you buy, be sure it's
SOL-SPEEDI-DRI
OIL & GREASE ABSORBENT

Name _____

Address _____

City _____

State _____

CCJ 8-51



"... WE WANT TIRES
STRONG ENOUGH FOR
SEVERAL RECAPPINGS
...SO SEND US
MOHAWKS!"

Fleet owners nationwide report that the *complete life* of Mohawk Tires gives more miles at less cost . . . First, the original tread lasts longer, because of its extra-tough, heat-resistant construction. And the carcass of every Mohawk Truck Tire has surplus-strength—it's strong enough to handle several recappings. Fleet owners know that an undamaged Mohawk Tire with a smooth tread is still a valuable asset. So, they recap it, keep rolling, and save money.

THE MOHAWK RUBBER COMPANY

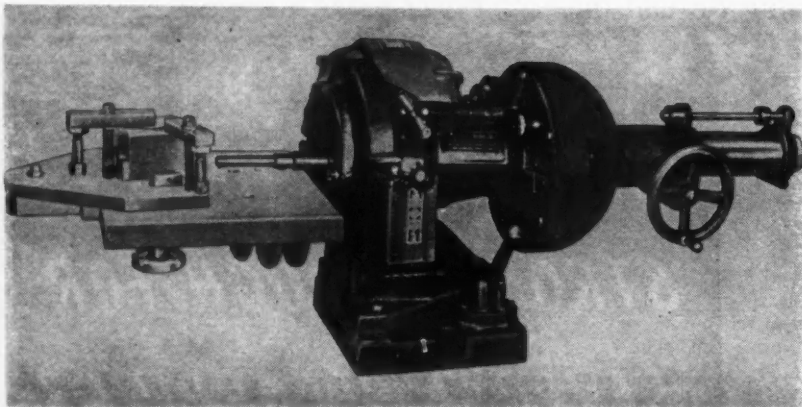
Plants: Akron, Ohio Littleton, Colo.

Export Department, 1819 Broadway, New York 23, N.Y.
Cable "Mohawk" New York



SUPER CHIEF TRUCK

An extra tread, heavy-duty truck tire for extremely long mileage. Vented shoulders reduce heat, insure longer wear.



New Products

Continued from Page 78

P20. Boring Machine

Tolerances of plus or minus .003 together with a finely finished surface are promised in the new model boring machine made by Hydro Borer Co., Inglewood, Calif. In addition, the manufacturer has pointed out that low cost, the work size of $\frac{5}{8}$ in. to $6\frac{1}{2}$ in. and the light weight of 250 lb are other advantages.

The feed mechanism of the Hydro Borer consists of a threaded piston that rotates in a cylinder of oil. Oil transfers through the threaded piston from one side of the piston-spindle assembly to the other, moving the spindle into and through the work.

The spindle drive has a $\frac{1}{2}$ hp motor giving shaft speeds from 450 to 1400 rpm. Maximum feed is predetermined by lead and depth of thread on the piston. Adjustments are provided so that as little as .0001 in. may be turned from the bore. The machine may be set to feed through work and remain inactive, feed to adjustable stops and return automatically, or continue in a cycling operation.

P21. Steam Cleaner

Where intermittent use of a steam cleaner is needed, Chem-Therm Mfg. Co., Moravia, Calif., has an automatic, gas-fired unit, said to be designed for

ANTHONY "LIFT GATES"

THE STANDARD OF COMPARISON

NO OTHER CAN MATCH THE DURABILITY, RELIABILITY AND UTILITY OF ANTHONY LIFT GATES—at any price!

GATE TYPES TO SUIT ALL LOADING METHODS

Why

More Anthony Lift Gates are purchased than all others combined!

ANTHONY LIFT GATE HYDRAULIC

Weight savings add payload and economy.

ANTHONY LIFT GATE HYDRAULIC

Simplicity through up to 75% fewer working parts.

ANTHONY LIFT GATE HYDRAULIC

Greater safety to load and operator through specific features.

ANTHONY LIFT GATE HYDRAULIC

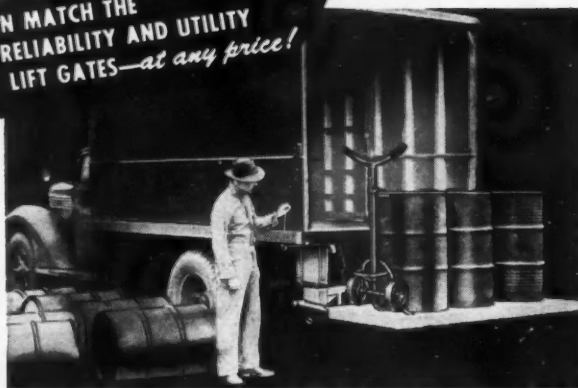
Instantaneous finger tip control at any level, even with maximum load.

ANTHONY LIFT GATE HYDRAULIC

Power with extra reserve from 5" ID cylinder to handle the most unusual type of load.

ANTHONY LIFT GATE HYDRAULIC

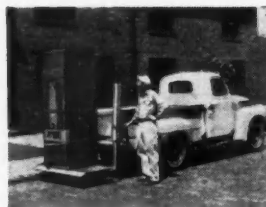
A choice of gate types and sizes all with power closing of your selection.



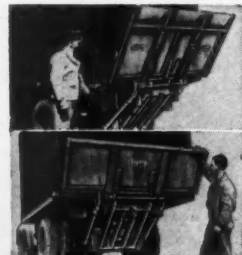
GENERAL PURPOSE TYPE GATE. Suits over 90% loading methods. Choice of Power closing—(see below). Anthony Lift Gates are the choice of operators who make comparisons.



RAMP TYPE Gate for wheel-on loadings at ground level. Simplicity is the reason 8 of 10 elevating tail gates you see are Anthony Lift Gates.



"PICK-UP" TYPE for $\frac{1}{2}$ and $\frac{3}{4}$ ton trucks—Hydraulic power. Speed, durability and simplicity identify Anthony Lift Gate.



YOUR CHOICE OF POWERED CLOSING
HYDRAULIC POWER Closing (top)—a flip of a lever closes it.
SPRING POWERED Closing (bottom)—a flip of the hand does it.

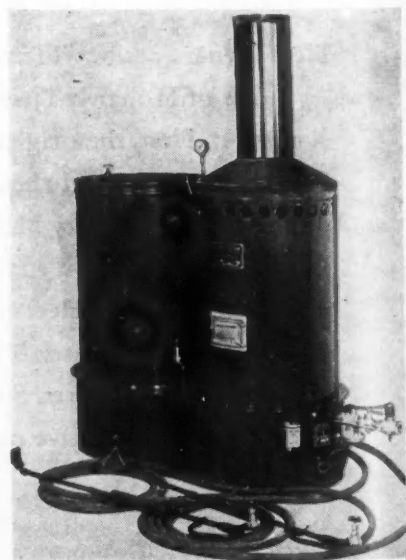
FITS ANY MAKE OF BODY
NATIONAL DISTRIBUTION
SALES and SERVICE



ANTHONY LIFT GATE HYDRAULIC

ANTHONY CO., STREATOR, ILLINOIS

Dept. 203

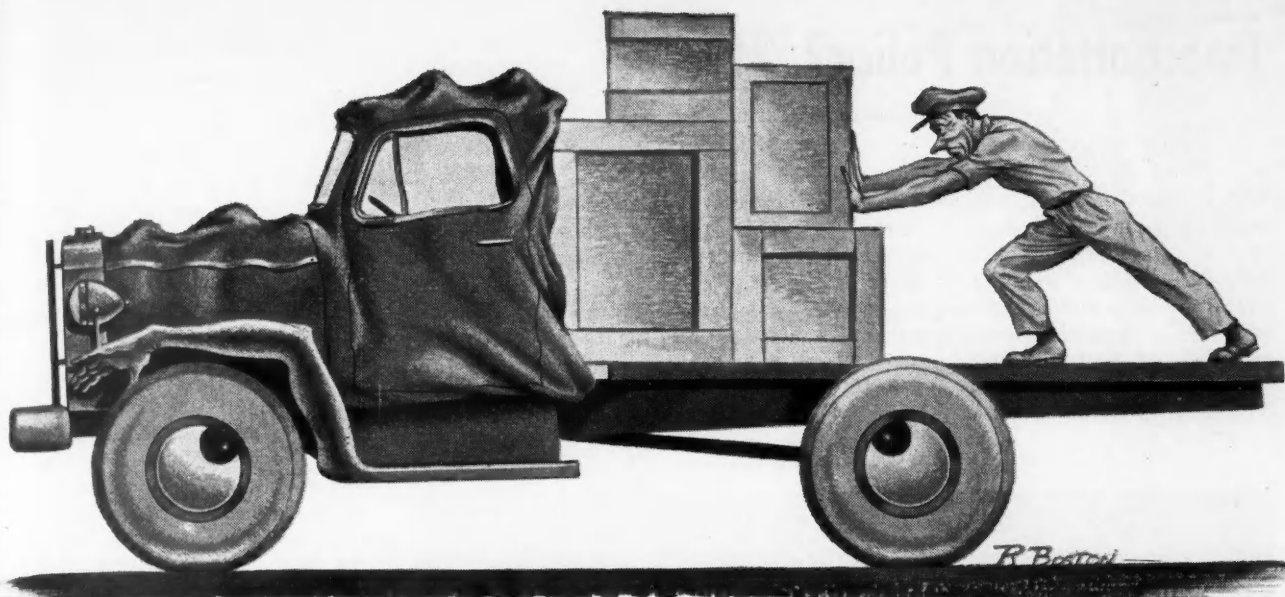


this type service. According to the manufacturer, with the use of this steam outfit, no pre-brushing or hand operation is required, and one man may perform many of the operations which formerly required two.

END

Please Resume Reading Page 81

COMMERCIAL CAR JOURNAL, August, 1951



PROBLEM: How to move the payload forward —

Saginaw Steering has once again come up with the *right* answer. Another major profit-eating hauling problem has been solved.

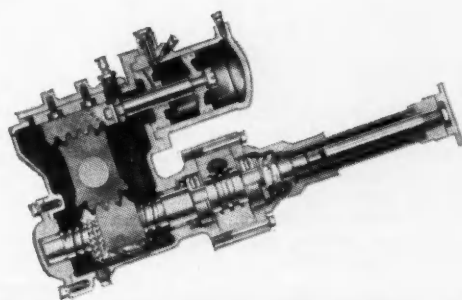
Use of Saginaw's revolutionary new hydraulic power steering gear permits up to *double* the usual front axle payload . . . brings easier, safer steering *plus* new payload profits—with no increase in truck size . . . no danger of exceeding legal load limits.

Saginaw power steering has an outstanding record of efficient, trouble-free operation behind it . . . is built by the largest manufacturer of steering equipment in the world.

Whatever your requirements, you'll find Saginaw hydraulic power steering gear will fill the bill — will bring bigger payloads . . . bigger profits than ever before. Contact your truck manufacturer. Ask about Saginaw power steering installations today.

IF IT'S EASY TO STEER—IT'S A SAGINAW GEAR

ANSWER: Install **SAGINAW** hydraulic power **STEERING GEAR**



Saginaw

**STEERING GEAR
DIVISION**

General Motors Corporation, Saginaw, Michigan

SGI PRODUCTS

STEERING GEARS AND LINKAGES • PROPELLER
SHAFTS • TRANSMISSION CONTROLS • TURN
SIGNALS • DIESEL ENGINE PARTS • BALL BEARING
SCREW AND NUT ASSEMBLIES • AUTOMOBILE JACKS

Transportation Policy? YES!

Continued from Page 51

the fact that the existing tribunals were originally established to serve the needs of rail and water, it is not surprising that there exists a woeful lack of facilities to cope with the increased tempo and present demands being created by highway and air transportation.

This tribunal should be established immediately, for its delay merely en-

courages the mushrooming of special groups, agencies, lobbys, etc. Under present conditions this practice cannot be entirely condemned; as it is the only way by which individual groups can gain audience for their opinions, desires, or bring about progress.

Is it not, therefore, time to seriously consider putting the entire transporta-

tion business under a single agency, so that good management methods can be applied to a national problem as they are now applied to corporation problems? This can be just as easily accomplished with transportation as it has been with finance, agriculture, and commerce—and without fear of a socialized state or system.

Representation in the Cabinet

WHY should not the nation's third largest business have its rightful place in the President's Cabinet? Transportation has proved its worth and size to be entitled to a full secretarial status in the Cabinet, with jurisdiction over all forms of transportation without exception. Aside from the right to such a place, it is imperative, if a streamlined system is to be had, that it be marshaled at a moment's notice to take care of any type of catastrophe, as well as adequately take care of normal needs of modern commerce. Transportation badly needs a head man.

Further, we believe you will agree that it is necessary to maintain, on the functional side of such an organization, a tribunal to which the nation's transportation agencies and interests may present their problems for review. Therefore, we suggest a new independent agency be established similar to and in place of the Interstate Commerce Commission, to be named "Pub-

(TURN TO PAGE 116, PLEASE)

P. S. of P.I.E.

Another safety and public interest reminder has been added at Pacific Intermountain Express Co. terminals and relay stations. At all P-I-E exit



gates a 4 x 3½ foot sign, painted white, with red and black lettering, has been erected to remind all personnel of the importance of safe driving, courtesy and the individual's responsibility as a representative of P-I-E. The signs are worded as follows: THINK! Drive Safely, Control Smoke and Noise. Be courteous. Beyond these gates, You Are P-I-E.

This Compressor won't take N.O.* for an answer

(No Oil)

that's why the
Westinghouse
"Y"

saves repair
bills for you!



When it's a question of lubrication, this Westinghouse "Y" Compressor won't take N.O. (No Oil) for an answer. If the crankcase says "No Oil" the "Y" Compressor says "No Air". It sticks to its demands, too—which is why users don't get stuck with big repair bills. In many busy garages or service stations, where compressor lubrication may be overlooked, this one feature is one of the best "life assurance" policies your compressor can have. NO OIL—NO AIR protection calls immediate attention to the oversight, which can be corrected before you have to pay expensive repair bills.

You'll find too, that the "Y" offers all the usual modern features—two stage compression, air cooled design, pressure lubrication, automatic pressure control—that mark any quality compressor, PLUS the three protection features listed at right. Finally, it's big,

Only the Westinghouse "Y" gives you ALL THREE

Low Oil Level Protection—No Oil—No Air, bans wear and repair.

Thermal Overload Protection—Standard, at no extra cost, on the "Y".

Starting Unlabeled—Compressor remains unloaded till speed and oil flow are normal.

rugged and husky . . . designed and built to give you years of dependable service.

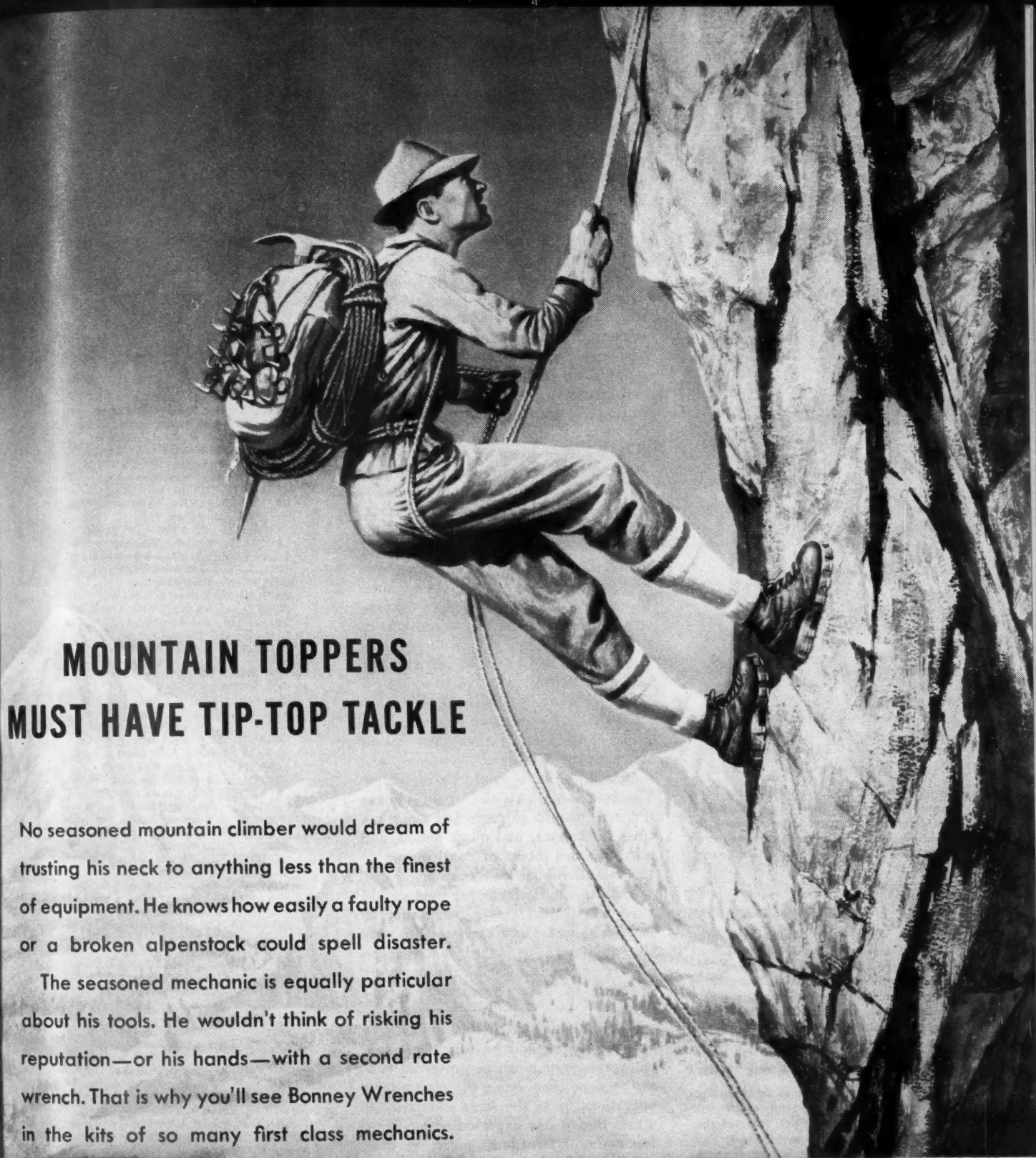
For extra assurance and economy, install the Westinghouse "Y" Compressor. They are available with displacements from 6.2 to 68 cfm. Motor capacities from 1½ to 15 hp.

Westinghouse Air Brake Co.

Industrial Products Division—WILMERDING, PA.
Factory Branch: EMERYVILLE, CALIFORNIA

ASK FOR
BULLETIN
IDC 9302-3.

DISTRIBUTORS THROUGHOUT THE UNITED STATES . . . CONSULT YOUR CLASSIFIED DIRECTORY
DISTRIBUTOR IN CANADA: CANADIAN WESTINGHOUSE CO., LTD., HAMILTON, ONTARIO



MOUNTAIN TOPPERS MUST HAVE TIP-TOP TACKLE

No seasoned mountain climber would dream of trusting his neck to anything less than the finest of equipment. He knows how easily a faulty rope or a broken alpenstock could spell disaster.

The seasoned mechanic is equally particular about his tools. He wouldn't think of risking his reputation—or his hands—with a second rate wrench. That is why you'll see Bonney Wrenches in the kits of so many first class mechanics.

This is one of a series of spirited sporting scenes (in full color, without advertising) available on request. Write for your free set today.

"CHEAP TOOLS ARE FOR CHUMPS". So says the good mechanic. And the best recommendation for Bonney Wrenches is the kind of men who use them. As thousands of good mechanics can testify, for lightness, strength, balance and precision, you can't beat a Bonney.



BONNEY FORGE & TOOL WORKS, ALLENTOWN, PENNSYLVANIA

**"This one clamp
saves a dozen trips
to the stockroom"**



"Aero-Seal"

**WORM DRIVE
HOSE CLAMPS**
with Stainless Steel bands.

No need for a trip to the stockroom for a clamp to tighten a leaky hose. Overhaul after overhaul, season after season, the mechanic simply replaces the worn hose and re-uses the same Aero-Seal Hose Clamp.



WON'T CRIMP—CAN'T LEAK

Worm drive applies even pressure all round the hose. Smooth saddle prevents cutting. No crimping—Aero-Seal can be replaced in any position. Three threads of worm always engage deep into slots of stainless steel band...hold hose tight over a million miles of roads!

REPLACE ANYWHERE—ANY TIME



A man can install an Aero-Seal any place he can reach with thumb and finger. Integral construction—no parts to lose. Self-feeding when worm engages band. Screw-driver slot or thumb grip screw styles. Tighten with a twist of the wrist.

Fit most transportation industry needs. Write for **FREE SAMPLE** today.



BREEZE CORPORATIONS, INC.
41 South Sixth St., Newark, N. J.

Transportation Policy

Continued from Page 114

lic Transportation Commission." The word "national" would probably be more appropriate than the word "public." However, it could easily be confused with nationalization.

This commission should be free from executive pressure and enjoy independence in judicial and regulatory activities. It should be so constituted and organized to eliminate bureaucracy, inefficiency, lag in tariff rate review, overlapping of jurisdiction and authority, and above all an appalling waste of employees' time in industry and government.

It should be expected that each form of transportation would organize to provide an official committee or body to represent their collective or individual needs to the "Public Transportation Commission." This would assist the rails, water, pipe line, air line, and highway groups in maintaining their identity so that a free, competitive system of transportation could continue to prevail.

In reorganizing the federal transportation activities, the jurisdiction or authority of the transportation department should be based on principles and broad procedures rather than follow the premise that details, motions, and individual actions should be regulated. The functional activities of the various divisions should be patterned along the lines of economy and quick action, and not with the intent of contributing to the overall volume of the order.

With the authority to regulate should exist the concurrent responsibility to furnish shippers and carriers with only the minimum standard necessary—clearly expressed and appropriately grouped to cover important carrier fields.

The foregoing method is believed to be a sound method by which our free enterprise system can be preserved and, at the same time, bring the government operations up to the same standards of ethics that it has expected of business. Remember, "freedom gives us the privilege of responsibility," and it is our responsibility to see that transportation, the primary activity of our society, continues to be not only a movement of goods and persons, but a criterion of civilization.

END

Please Resume Reading Page 51

Just Fishin'?

BEARDED BENNIE, OUR SHOP ROUSTABOUT, SAYS THAT MANY MEN WHO THINK THEY HAVE A GIRL ON THE STRING FIND OUT TOO LATE THAT THEY HAVE HOLD OF THE END WITH THE HOOK.

Budd Wheel Distributors provide the same service described in this advertisement

AKRON—Motor Rim Manufacturers Co.
ALBANY—Wheels, Incorporated
ALBUQUERQUE—Wheels & Brakes, Inc.
ATLANTA—Harris Automotive Service, Inc.
BALTIMORE—R. W. Norris & Sons, Inc.
BIRMINGHAM—Wheel, Rim & Parts Co.
BOSTON—New England Wheel & Rim Co.
BUFFALO—Frey, the Wheelman, Inc.
CHARLOTTE—Carolina Rim & Wheel Co.
CHATTANOOGA—Harris Automotive Service, Inc.
CHICAGO—Stone Wheel, Inc.
CINCINNATI—Rim & Wheel Service, Inc.
CLEVELAND—Motor Rim Manufacturers Co.
COLUMBUS—Hayes Wheel & Spring Service
DALLAS—Southwest Wheel, Inc.
DAVENPORT—Stone Wheel, Inc.
DAYTON—Rim & Wheel Service, Inc.
DENVER—Quinn & McGill Motor Supply Co.
DES MOINES—Des Moines Wheel & Rim Co.
DETROIT—H. & H. Wheel Service, Inc.
EVANSVILLE—Auto Wheel & Rim Service Co., Inc.
FARGO—Wheel Service Company
FORT WAYNE—Wheel & Rim Sales Co.
GRAND RAPIDS—Rim & Wheel Service Co.
HARRISBURG—Standard Wheel & Rim Co.
HARTFORD—Connecticut Wheel & Rim Co.
HOUSTON—Southwest Wheel & Equipment
INDIANAPOLIS—Indiana Wheel & Rim Co.
JACKSONVILLE—Southeast Wheel & Rim Co.
KANSAS CITY—Borbein, Young & Co.
KNOXVILLE—Harris Automotive Service, Inc.
LOS ANGELES—Wheel Industries, Inc.
LOUISVILLE—Auto Wheel & Rim Service
MEMPHIS—Beller Wheel, Brake & Supply Co.
MILWAUKEE—Stone Manufacturing Co.
MOLINE—Mutual Wheel Co.
NASHVILLE—Beller Wheel, Brake & Supply Co.
NEWARK—Automotive Safety Inc.
NEW HAVEN—Connecticut Wheel & Rim Co.
NEW ORLEANS—Southern Wheel & Rim Co.
NEW YORK—Wheels, Incorporated
OKLAHOMA CITY—Southwest Wheel, Inc.
OMAHA—Morgan Wheel & Equipment Co., Inc.
PEORIA—Peoria Wheel & Rim Co.
PHILADELPHIA—Thomas Wheel & Rim Company
PITTSBURGH—Wheel & Rim Sales Co.
PORTLAND—Six Robblees', Inc.
PROVIDENCE—New England Wheel & Rim Company
RALEIGH—Carolina Rim & Wheel Co.
RICHMOND—Dixie Wheel Co., Inc.
ROCHESTER—Frey, the Wheelman, Inc.
SALT LAKE CITY—Henderson Rim & Wheel Service
SAN ANTONIO—Southwest Wheel & Equipment
SAN FRANCISCO—Wheel Industries, Inc.
SEATTLE—Six Robblees', Inc.
SOUTH BEND—Wire & Disc Wheel Sales & Service
SPOKANE—Bearing & Rim Supply Co.
SPRINGFIELD, ILL.—Illinois Wheel & Brake Co.
SPRINGFIELD, MO.—Borbein, Young & Co.
ST. LOUIS—Borbein, Young & Co.
ST. PAUL—Wheel Service Co.
SYRACUSE—Colbourn Wheel & Rim Service, Inc.
TACOMA—Six Robblees', Inc.
TOLEDO—Wheel & Rim Sales Co.
WICHITA—Borbein, Young & Co.

EXPORT

CLEVELAND—C. O. Brandes, Inc.

CANADA

CALGARY—Fisk Tire Service Ltd.
EDMONTON—Alberta Wheel Distributors, Ltd.
MONTREAL—General Automobile Equipment Ltd.
TORONTO—Wheel & Rim Co. of Canada, Ltd.
VANCOUVER—Wheels & Equipment, Ltd.
WINNIPEG—Ft. Garry Tire Service Ltd.

R_x for a headache



Even Hadacol gets headaches. This one was in the maintenance of its fleet of 115 units. In their operation through 36 states it seems they were suffering from a constant breakdown of wheels.

Frank Powell, sales representative of Southern Wheel & Rim Service, New Orleans distributor for Budd wheels, was asked to analyze the problem. Upon his recommendation the tractor-trailer units were changed over to 10.00 x 20 tires mounted on Budd wide base wheels and the 1½-ton trucks to 9.00 x 20 tires mounted on Budd wide base wheels. The trouble has cleared up, says Hadacol.

If you are having wheel trouble these days . . . or if you're not getting the mileage you would like from your tires . . . perhaps your own Budd distributor has the answer. Why not call him—a free survey of your equipment is for the asking.

The Budd Company, Detroit 14



GENUINE

Budd

COLD TAPERED DISC

WHEEL

*Available in both standard
and lightweight construction.*

Transportation Policy? . . . NO!

Continued from Page 51

U. S. Transportation Policy

OUR national transportation policy is stated in the preface, or preamble, to The Interstate Commerce Act. It is to provide for fair and impartial regulation of all modes of transportation subject to the provisions of this Act,

so administered as to recognize and preserve the inherent advantages of each; to promote safe, adequate, economical and efficient service and foster sound economic conditions in transportation and among the several carriers; to encourage the establishment and maintenance of reasonable charges for trans-

portation services, without unjust discriminations, undue preferences or advantages, or unfair or destructive competitive practices; to cooperate with the several states and the duly authorized officials thereof; to encourage fair wages and suitable working conditions—all to the end of developing, coordinating, and preserving a national transportation system by water, highway, and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense. It then provides that this Act shall be administered and enforced so as to carry out that Policy.

Other Policy Statements

THERE are other declarations of transportation policy, such as that in Section 500 of the Transportation Act, 1920, where it is declared that the policy of Congress is to promote, encourage, and develop water transportation, service and facilities in connection with the commerce of the United States, and to foster and preserve in full vigor both rail and water transportation.

Paragraph 1a, Section 3, of the Interstate Commerce Act is another declaration of policy to the effect that shippers of wheat, cotton, and all other farm commodities for export shall be granted export rates on the same principles as are applicable in the case of export rates on industrial products for export.

In the first paragraph of the Hoch-Smith Resolution, it is declared to be the true policy in rate making—to be pursued by the Interstate Commerce Commission in adjusting freight rates—that the conditions which at any time prevail in our several industries should be considered, insofar as it is legally possible to do so, to the end that commodities may move freely.

These three declarations are more specific than the general declaration and the latter seems sufficiently broad to include the others; and it may be considered as our present policy.

(TURN TO PAGE 121, PLEASE)

TO INCREASE CONTACT LIFE USE ECHLIN CAPACITY RATED CONDENSERS

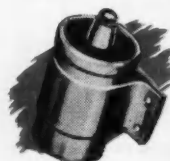
FULL RANGE OF CAPACITIES
HEAVY DUTY CONSTRUCTION
TRIPLE INSULATION
CASE AND CONNECTOR
IMBEDDED IN NEOPRENE
OIL FILLED
WATERPROOF CONSTRUCTION



HD-20
(.20 mfd.)



HD-25
(.25 mfd.)



HD-30
(.30 mfd.)

HERE'S HOW . . .

For normal driving, install ECHLIN Condenser HD-25. If a crater or pit forms on the negative contact, use higher capacity ECHLIN Condenser HD-30. If a crater or pit forms on the positive contact, use lower capacity ECHLIN Condenser HD-20. If there is no pronounced pit, continue to use ECHLIN Condenser HD-25.



Write for your FREE copy of the new ECHLIN Truck and Bus Catalog.



ECHLIN Ignition



CONTACTS
COILS - CONDENSERS
& OTHER AUTOMOTIVE
ELECTRICAL PARTS

ECHLIN MANUFACTURING COMPANY
234 EAST STREET • NEW HAVEN 5, CONN.



"The political sentiments expressed on this program are not necessarily those of the driver!"

Transportation Policy

Continued from Page 118

Policy Essentially Sound

THE national transportation policy attempts to recognize and preserve the inherent advantages of each mode of transport. It is silent as to who is to reap those advantages, but we may safely assume that it should be for the general public good.

There are very fundamental differences in the methods of operation in the various forms of transportation, their cost factors, and the nature or quality of the services provided. When unnecessary or artificial regulatory or cost barriers are erected in the path of one mode of transportation for the purpose of easing the competitive party of another mode, regardless of the announced purpose, the public is deprived of some of the advantages inherent in that mode which is thus required to hurdle the barrier.

Fair Competition Provided

WHEN rates for one mode of transportation are made with the rates of another mode, or other modes, as the principal consideration, again the public loses some of the inherent advantages of one of them; and natural competition between the affected modes is artificially reduced.

The policy attempts to eliminate unfair or destructive competition. But lower rates or more attractive service by a mode of transportation which can offer those rates or provide that more attractive service while earning a reasonable profit is merely sharing its inherent advantages with the public. Should it result in severe competitive difficulties for other modes, it is not unfair competition. And should it result in partially or entirely supplanting the competitive services, it is progress, not destructive competition.

Compare it with other businesses. Every business man is keenly aware of his competition. He must constantly strive to improve his product, his services, his value to his markets and, otherwise, keep ahead of, or at least abreast with, his competition if he is to continue to prosper. That is the system of private enterprise and free competition under which our nation became the greatest on the face of the earth.

That system does not contemplate nor successfully permit one who feels the pinch of competition to run with deep moans and moist eyes to the Great White Father and seek the mutilation of his competition. I leave to your judgment the decision as to whether or not our transportation statutes are so

administered and enforced as to recognize and preserve the inherent advantages of each mode of transportation.

Industry Unity Needed

MANY of us think of our transportation systems as an industry, which it is. But we do not have a cohesive and united transportation industry.

About the only things in common between the various modes of transport are that they produce transportation services by differing methods, and that they sell those services. Each mode is organized and works for its own in-

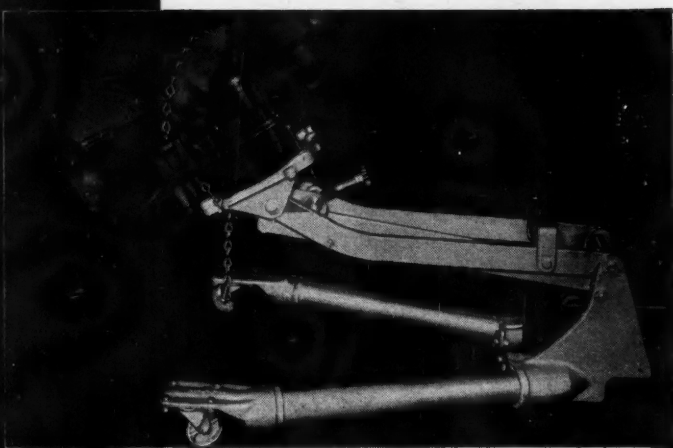
terests without much apparent consideration for the whole.

Substantially every other major industry is organized into a cohesive group which strives to serve the best interests of that industry on a broad basis, regardless of whatever different methods are used to obtain the end product or products, and to erect a framework of general good. A national policy, if you please to term it so, within which each member or segment is free to operate and compete to the full extent of his ability.

(TURN TO NEXT PAGE, PLEASE)

AEROL

MOST VERSATILE UNIT LIFT BUILT AT A PRICE YOU CAN AFFORD



AEROL LIFT (floor model) holds unit securely even in tilt position.

REMOVE INSTALL POSITION

TRANSMISSIONS
DIFFERENTIALS
GAS TANKS
SPRINGS
CRANKCASES
DRIVE LINES
UNIVERSAL JOINTS

AXLES
MOTORS

Do any under-chassis job—faster and easier—with the AEROL LIFT. The AEROL LIFT is built for quick, one-man operation—handles the heaviest truck transmission—or the lightest unit. Brings units to bench height (37"). Hydraulic jack removable for use when AEROL LIFT is not needed. Order the floor model or the 2-post hoist model.

Send
for
Catalog
Today

THE CLEVELAND PNEUMATIC TOOL CO.

Automotive Division

3769 E. 77th Street

Cleveland 8, Ohio

Please send me more information on the AEROL LIFT.

NAME

ADDRESS

Transportation Policy?

Continued from Page 121

Competition is not lessened; good ethics are practiced. And those national organizations do not pit one segment of the industry against another part of the industry.

I have thought that if our transportation industry were so organized and made a similar effort, the result would eliminate some of the more difficult

features of the problem and permit an earlier solution of the balance.

Perhaps the vast differences in the operations of the various forms of transportation—such as private rights-of-way for the railroads, public rights-of-way for the highway and water carriers, the air-ways for the air lines—preclude a lasting solution as to all phases of the problem. Yet it is of the utmost importance that all of us should constantly strive to unselfishly better the transportation situation.

It is a duty which we owe to our country and one in which the trans-

portation industry should willingly cooperate. It cannot be accomplished if government, carrier and user each follows the lines of selfish interest, least resistance, or loudest advocacy.

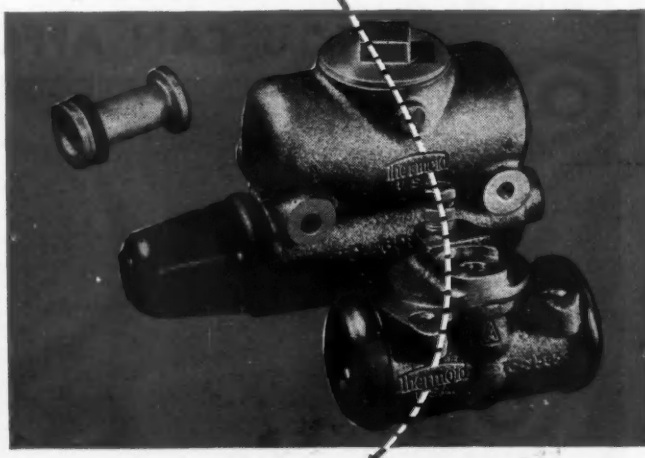
EDITOR'S NOTE—This article has been excerpted from a paper presented by the author at the U. S. Chamber of Commerce's recent regional forum on national transportation problems in Atlanta, Ga. The full paper contains about 75 per cent more detailed information on the industry's legislative, development and operation problems. The editors suggest this excellent paper as "must" reading for truck and bus fleet management. Copies of the paper, and all others presented in Atlanta, together with discussions are available at a nominal cost. Address requests to Mr. Harold F. Hammond, Manager, Transportation and Communication Department, Chamber of Commerce of the United States, Washington 6, D. C.

END

Please Resume Reading Page 52

Look For The Name

Thermoid



And Get These Advantages

- 1 **Cups** and other rubber parts are made of natural crude, specially compounded for toughness and resistance to wear. Into these parts goes all of Thermoid's specialized experience in the manufacture of rubber products, including fan belts and hose—as well as conveyor belting, transmission belting and many other industrial rubber products.
- 2 **Castings** of special analysis gray iron alloy protect you against flaws which cause breakage of inferior castings, and excessive porosity which results in leakage.
- 3 **Cylinders** honed to a scratch depth of less than 25 millionths of an inch are one more example of the "Precision Processing" that characterizes all Thermoid products.

The Thermoid name on Hydraulic Brake Cylinder Assemblies and Parts is your best protection against comebacks

Thermoid

Thermoid Company • Trenton, New Jersey

the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.



"You mean you're gonna bill me for this?"

for cool, quiet

POWER

LOOK FOR

ALCOA
LO-EX



when you buy replacement pistons*



CAST BY ALCOA
FOR PISTONS OF EVERY TYPE



T-SLOT



TRANS-SLOT



STRUT



TRUNK TYPE

Why pay the extra cost of inefficient power? Revive worn engines with aluminum pistons of ALCOA LO-EX!

Fleet men who know pistons rely on this trademark as their guide to quality. It identifies tough, heat-treated pistons that fit properly at all temperatures. No hot spots! No lost compression! No wasted fuel! You get more haul per overhaul when you insist on pistons of ALCOA LO-EX — cast by Alcoa, finished by expert piston makers. ALUMINUM COMPANY OF AMERICA, 1847H Gulf Building, Pittsburgh 19, Pennsylvania.

*Availability may be limited by military needs for aluminum.

MORE HAUL PER OVERHAUL!

Trailer Builders Review Techniques, Highways and NPA

The summer meeting of the Truck Trailer Manufacturers Assn., held in mid-July at Chicago, got off to a flying start with a veteran speaker—Barney Cushman of Cushman Motor Delivery Co., Chicago. His principal points,

directed to the trailer builders, concerned possibilities for improvement in trailer design and construction.

Recognizing strides already made, Cushman put the spot light on wiring as still the number one weakness. Then

came thoughts on more complete adoption of standardized connectors—both air and electric—as a means of promoting trailer interchange. Floors capable of withstanding the rigors of power loading operations would be highly desirable, he said, but should not increase weight. Preferably they should be of the nailable type.

Better rustproofing, particularly under panels; more durable marker lights designed for easier maintenance; built-in bulkheads, better bumpers and rub rails; a more positive door hold back (when open) and door safety chains; automatic slack adjusters, and improved means of wheel lubrication all came in for a fair share of Cushman comment.

Need for Highway Study

FROM Harold F. Hammond of the United States Chamber of Commerce Transportation Dept. came a strong plea for a million-dollar study of highway financing needs. He pointed out that studies made by the Bureau of Public Roads and especially the famous Eastman report of 1932, are largely out of date and that there was great need of an up-to-date scientific study, representing all interested groups.

In support for better highways he made a telling argument: "It has been proven over and over again that a few cents added to the highway bill can produce much greater savings in vehicle operating cost."

Good News from Washington

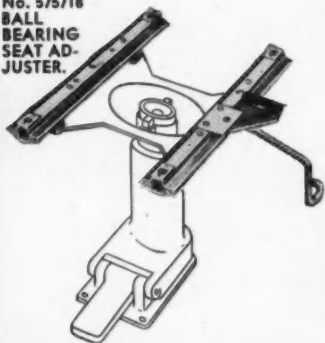
ALSO on the TTMA agenda was E. J. "Luke" Lucas making his first public appearance as a Washington bureaucrat. He resigned recently from his post with Kingham Trailer Co., Louisville, to represent the industry as chief of the truck-trailer branch of the National Production Authority. In spelling out the duties of his office he convinced listeners of at least three points. One. No matter how you slice it, bureaucracy is complicated business. Two. In NPA's trailer branch, the folks know what they're doing. Three. By and large NPA and other government agencies have a great many more experts—men with proven experience in the business they serve—than did corresponding agencies in World War II.

Skid Test Appeal

In a punchy three-minute talk, Fred Lautzenhiser of International Harvester, summed up previous National Safety Council skid test, particularly on articulated vehicles, urged full support by trailer builders in program for next winter.

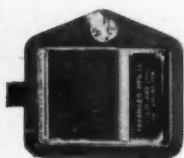
New items in **Eber HARDWARE** to meet the CHANGING NEEDS of TRUCK BODY BUILDERS

No. 575718
BALL
BEARING
SEAT AD-
JUSTER.



No. 4879
PADDLE HANDLE
RECESSED
DOOR LOCK.

*Nos.
5622 & 5622X
EBER
"GRIP-HARD"
JUNIOR
DOOR LOCK.



No. 4881
KEY LOCKING, PADDLE
HANDLE RECESSED DOOR
LOCK. Right and Left.
Right Shown.



No. 575728 SCHOOL BUS
SAFETY DOOR
CONTROL



Improved truck bodies require improved hardware.

The progressive product designing departments of Eberhard are constantly at work developing new truck body hardware and improving current items where possible.

Whether you are concerned with repairing, rebuilding or the manufacture of new truck bodies, you'll be interested in the New Eberhard offerings. Catalog available upon request.

* Proportionately Lighter in Weight than our 5625 and 5625X Lock.

EBERHARD *Long Run* TRUCK BODY FITTINGS



EBERHARD MANUFACTURING CO.

Division of the Eastern Malleable Iron Co.

EVARTS AVENUE

CLEVELAND, OHIO



Mobilizing Motor Transport

AS A PATRIOT might exclaim today, about operating a fleet: "My only regret is the loss of a single hour by any unit."

Every reduction of maintenance time . . . every added productive mile . . . every replacement saved . . . now "advances the ball" for the nation. Reason enough why lubricants considered adequate heretofore are giving way, throughout many a fleet, to extra-capable Cities Service lubricants.

Cities Service makes the exact types for all applications, from engines and gearing of all kinds, to lifts and rare special jobs. The specified lubricant at the specified time is what you'll get from Cities Service . . . keenly progressive, responsible, and consumer-minded. Write to CITIES SERVICE OIL COMPANY, Room 87, Sixty Wall Tower, New York City 5. Or phone the office nearest you.

CITIES  SERVICE

QUALITY PETROLEUM PRODUCTS

Washington Runaround

Continued from Page 37

Requirement that a lease be of at least 30 days duration, said ATA, makes illegal a right of private carriers which has been established by usage for years. Likewise attacked as unfair were the provisions which exempted vehicle leasing in rail express.

Also singled out for ATA fire was the effect of the order which would prohibit for-hire carriers from trip leasing to other carriers except under

limited conditions. ATA held that the order would fall short of its announced purpose of tending to integrate owner-operators into carrier systems, thus promoting safety inspections.

Building Curbs Stringent

Those faced with construction of new terminals and related or similar buildings are facing headaches over the next few months. Shortage of structural steel shapes, described by NPA as "critical," has caused the agency to clamp tighter than ever re-

strictions on construction. Everyone will have to take a materials cut says NPA.

DTA has been given the responsibility of determining where and to whom construction permits are to be issued within the trucking industry. But a construction permit is of little help unless materials allocations are forthcoming.

One bright spot, perhaps, is that under CMP-6, a builder does not have to have a materials allocation if the proposed building does not require more than 25 tons of steel, more than 2,500 lb of copper products, and 500 lb of aluminum items.

But, even here, the builder must be able to get the smaller amounts on the "free" or open market. This is not seen as easy. Reports are that numerous buyers of steel, even though armed with rated orders, are being turned away by suppliers who have no materials for sale.

Specific Allocations Listed

It's a good guess that although the Defense Transport Administration settled with NPA for sufficient allocations of materials to continue truck production at a 1.1 million rate, DTA still has its sights set on its original goal of a rate of more than 1.2 million trucks and tractors. It will try to get the allocation increased later.

In the meantime, allocations of materials will be distributed among truck builders on the following percentage basis:

Heavies—IHC, 27.2; Ford, 13.1; Dodge, 13.1; GMC, 12.6; White, 9.9; Mack, 9.2; Diamond T, 3.4; Reo, 2.7; Brockway, 1.8; Autocar, 1.7; and all others less than 1 per cent each.

Mediums—Chevrolet, 33.3; Ford, 26.8; IHC, 13.2; Dodge, 12.8; GMC, 7.0; Studebaker, 5.0; and others, fractional.

Lights—Chevrolet, 34.9; Ford, 21.1; Dodge, 13.4; Willys, 8.8; IHC, 8.7; GMC, 7.6; Studebaker, 4.6; others, fractional amounts.

Watch Out for "Tilts"

Carriers which accept pinball machines and similar devices for interstate transportation are inviting trouble unless it is first made sure that the devices are not within the definition of "gambling devices." A new slot machine law went into effect in January.

The FBI reports that so far this year its agents have confiscated more than 200 such devices under the law and carried 15 persons into court charged with illegal transportation. Some 40 or more additional reported violations are under investigation.

(TURN TO PAGE 128, PLEASE)

KEEP 'EM ROLLING!

STOP

COSTLY ENGINE DAMAGE
LOST ROAD TIME
CLEANING & RODDING COSTS



*INCLUDING THE YEAR 'ROUND DAMAGE OF "HIDDEN OVERHEATING"



Announcing the new MODEL "E"

Now... a Perry Filter model for *every* cooling system capacity! The new Model E, for cooling system capacities from 5 to 10 gals., completes a great Perry line, pioneers in cooling system protection.

Constantly cleans, softens and conditions coolant, prevents corrosion and eliminates scale water jackets (hot spots), main causes of burned valves, scored pistons, cracked cylinder walls and other costly engine damage. Stop "hidden overheating"—install Perry Filters on your entire fleet NOW! Write for complete information and fleet discount schedule: Dept. CCJ.

SPARK-O-LINER CORP., Minneapolis 4, Minn.

The Original and Only

ELECTRO-CHEMICAL

Perry

COOLING SYSTEM

filter

and CONDITIONER



POINT OUT that

**America has the purest form
of human liberty known
to man.**

Our job is to preserve it.

**Expose the Communists
who would sell us into
slavery.**

**By their cunning lies they
are trying to sabotage
American ideals.**

**POINT OUT those who would
destroy FREE MEN.**

BOHN ALUMINUM & BRASS CORPORATION

**EXECUTIVE OFFICES • DETROIT 26, MICHIGAN
SERVICE DIVISION • HOLLAND, MICHIGAN**

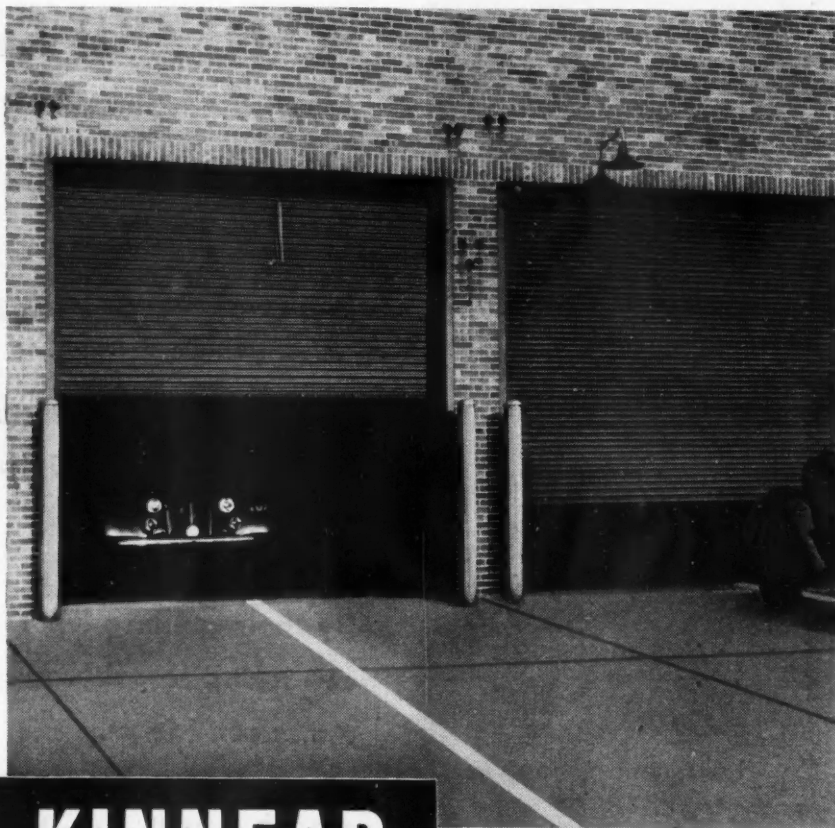
AUTOMOTIVE REPLACEMENT PARTS

TELEVISION!

**"American Forum of the Air" . . . Every Sunday Evening on NBC Television
Consult Your Newspaper for Time and Station**

BOHN

OPEN WIDE



KINNEAR Rolling Doors Clear The Entire Opening

You get full use of all doorway space when you equip openings with Kinnear Rolling Doors. They clear the doorway completely—from jamb to jamb and from floor to lintel. Even the floor, wall and ceiling space *around* the doorway remains clear and usable at all times.

The doors rise straight upward, coiling above the lintel. Trucks, material, or equipment can be left within inches of the door

curtain, both inside and outside the entrance, without blocking door action in any way.

The rugged all-steel construction of Kinnear Rolling Doors assures an extra measure of protection against theft, intrusion, storm damage, and fire. Kinnear Rolling Doors are built any size, with manual, mechanical or motor operation. Write for complete information.

The KINNEAR Manufacturing Co.

2100-20 Fields Avenue, Columbus 16, Ohio

1742 Yosemite Avenue, San Francisco 24, Calif.

Offices and Agents in All Principal Cities

**SAVING WAYS
IN DOORWAYS**

KINNEAR

ROLLING DOORS

Washington Runaround

Continued from Page 126

Job Rights Tightened

Reemployment rights of drivers and other workers have been broadened under the extended selective service (Universal Military Training) act. Whether he leaves by enlistment or by draft, a former worker must be rehired at same pay and grade if application is made within 30 days after release from service. Another change extends from the previous three years to four the period which draftee, enlistee or reservist may serve and still retain his re-employment rights. This is retroactive so as to apply to anyone entering the services after June 24, 1948.

Meantime, Rep. Albert P. Morano (R., Conn.), striking a blow in behalf of older job seekers, that is against a "hiring bias generally against workers over 45." He has introduced legislation forbidding such discrimination and providing penalties for both businesses and unions if such bias is proved.

15,000 Trailers in 3rd Quarter

Third quarter production of truck trailers is forecast by the Truck Trailer Mfg. Assn. as being in the neighborhood of 15,000 vehicles on the basis of third quarter allocations of materials by NPA. This would be about the same as second quarter production.

Fourth quarter allocations had not yet been announced in late July but TTMA was hopeful that they would be sufficient to permit continued output at second and third quarter levels. A strong plea to this effect was made by TTMA to NPA's requirements committee. Moreover, the association has assured the control agencies, the material estimates submitted are realistic and represent only production levels essential to the economy.

END

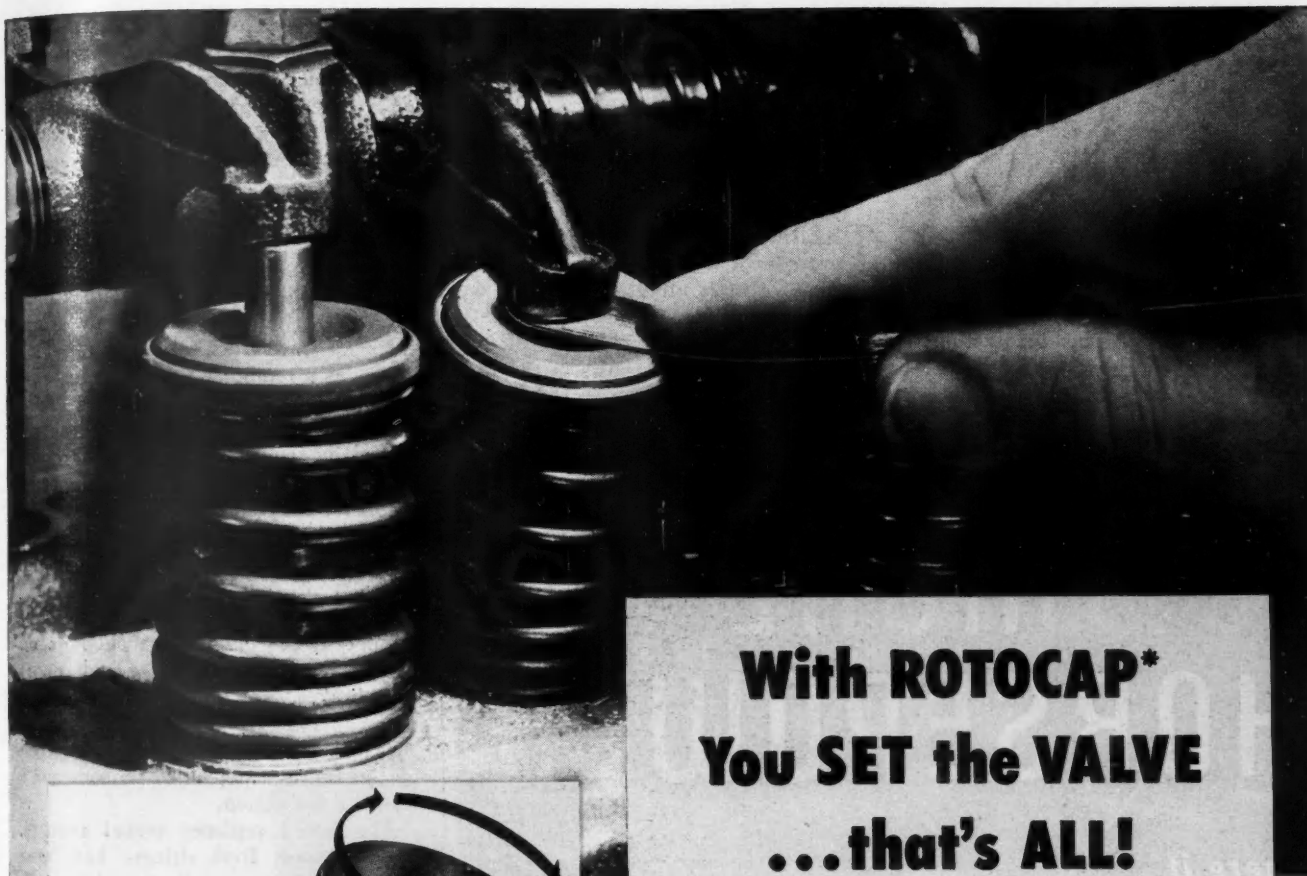
Please Resume Reading Page 41

Trailer Spotter

A tiny towing unit for spotting and switching of semitrailers has been developed by American-Coleman Co.,



Omaha, Neb. They call it the "yardmobile." It is equipped with a hydraulic fifth wheel, is powered by a 100 hp V-8 engine.



With ROTOCAP* You SET the VALVE ...that's ALL!



**"Valves that TURN
are TOUGH to BURN"**



Positive VALVE ROTATION
for the FIRST TIME...

ROTOCAP

*Your TP distributor also stocks the Thompson ROTOVALVE, the non-positive type "free valve" rotator that Thompson engineers developed and introduced a number of years ago.

WHEN YOU INSTALL a valve fitted with a Thompson ROTOCAP you set your valve clearance just as you've always done—there is nothing new or critical or fussy about the job. The precision-built ROTOCAP simply takes the place of the valve spring retainer cap and of itself requires no adjustment for a perfect valve installation.

And when the job is done and the hood is down you **KNOW** the valves are turning—approximately 6° every time they open and close—about 30 complete revolutions a minute at 3,600 R.P.M.

This *positive* valve rotation, which you get *only* with the Thompson ROTOCAP, is one of the outstanding developments in valve train engineering. It increases valve life 2 to 5 times by eliminating hot spots, by continuously "wiping" the valve face and block seat **CLEAN**, and by keeping the valve stem free in the guide.

The ROTOCAP has been adopted by heavy-duty engine builders. It is available through your Thompson Products distributor for a growing list of truck, bus and tractor engines.

When you're working on an engine that's up against hard jobs and must keep going, ask your TP distributor about ROTOCAPS. Install a set. Then notice the engine's performance and keep track of the valve mileage!

See Your **Thompson**  **Products** *Globber*

CLEVELAND • DETROIT • LOS ANGELES • ST. CATHARINES, ONT.

Laundry Cuts PM Costs

Continued from Page 65

day's high price of filters, it is cheaper to save the filter than to save oil.

Recently the same consulting lubrication engineer recommended a heavy detergent motor oil to replace the one we had been using. This reduced our motor oil bill from 90¢ to 52¢ per gallon.

Maintenance Control

THERE are trucks that seem to improve with time under the handling of some drivers; others do not fare as well. We try to emphasize in our contact with drivers the importance of immediate attention to repairs in the life of the equipment. We urge drivers to

report at once anything that goes wrong with the trucks. We ask them to file cards of needed repairs on their trucks on a lettered board hung in the shop, upon returning from their routes. These cards are checked after repairs have been carried out. They are dated and then turned over to the office.

I also indicate in chalk on a nearby blackboard my diagnosis and repairs needed beside the number of the truck where a driver has filled in only symptoms of the truck's behavior. This serves as a reminder that a job is to be done on the truck when it comes in.

The maintenance control board serves as a daily reminder to drivers to report needed truck repairs. Confronting them whenever they enter or leave the shop, the board is strategically placed, its truck numbers standing out challengingly.

Drivers used to catch me or one of my mechanics outside the shop or on their way through the alley and report bad brakes, a windshield wiper that didn't work, a switch needing repair. It was formerly a haphazard report given on the run that depended on someone's memory for action.

The board replaces verbal reports. The response from drivers has been good, but has not eliminated weekly truck inspections. Some drivers will go along with bad brakes for some time and never report it. Despite the control board, I systematically test a group of trucks every week, move on to the next group the following week, etc.

Shop Made Tools

THERE are several time and labor-saving devices we have introduced on our own. I took an old pneumatic and hydraulic front-end lift, lengthened the frame and lift by 1-ft in order to get it under the rear axle of a truck. Swivel wheels for easy and ready maneuverability were added. When the lift was lengthened, it took more air pressure to raise weights. Taking 175 lb air pressure, it can lift a 1-ton loaded truck.

I added a boom of 4½ ft, making it of channel iron 8 in. wide and 2½ in. deep. The boom is able to reach in and lift an engine out of a truck. The boom may be raised to a height of 4 ft 8 in.

The pneumatic rig may be used as a jack at any time for greasing, tire chain overhauling, etc.

I made 9 ft x 18-in. ramps for getting the trucks up on the grease rack. These were made of old, discarded equipment. Designed to save space as well, the ramps may be rolled out of the way.

A device for towing a truck with a broken axle is another of our developments. An overloaded light truck with
(TURN TO PAGE 132. PLEASE)



MORE HORSEPOWER

where it
**PAYS
OFF!**

AT THE REAR WHEELS... under road load conditions duplicated by the Clayton C-61 heavy duty truck and bus dynamometer... increased horsepower is translated into savings on fuel, fewer repair lay-offs and better maintenance of schedules. To learn how and why 92% of fleet operators using the dynamometer apply it to engine diagnosis under load, mail the coupon below. We will send you, free, a copy of "HOW THE CHASSIS DYNAMOMETER NETS FOUR-WAY MAINTENANCE SAVINGS," reprinted by special permission from the S.A.E. Journal, authoritative automotive engineering publication. Mail the coupon today for your copy.

**HOW
CHASSIS DYNAMOMETER
NETS FOUR-WAY
MAINTENANCE
SAVINGS**

Reprinted from
S. A. E. JOURNAL

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SELF-CONTROL STARTS HERE



AND TO RESTORE
ENGINE PERFORMANCE

OIL-CONTROL STARTS HERE

To stop oil-pumping, replace worn
engine bearings

A roving eye can lead to trouble—so can worn engine bearings!

Worn connecting rod and main bearings cause oil pumping. Excess oil reaches combustion chambers, burns to performance-stealing carbon on spark plugs, valves, pistons and rings.

Worn bearings are a *major cause* of oil

pumping! Give new piston rings a chance to do their own job—replace worn bearings at the same time. Use Genuine Federal-Mogul Bearings, *engineered* for the job of oil-control. They restore engine performance and owner satisfaction!

FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN



control oil-pumping where it starts—REPLACE WITH

FEDERAL-MOGUL



BEARINGS

PM Costs . . .

Continued from Page 130

a broken axle can't be towed in; the wheel will come off. Mechanics formerly had to get under the truck and lie in the snow to replace the rear axle. Added to this hardship, our shop is located on the second floor which is reached by a steep ramp with a sharp spiral twist in it. No crane could ever get a disabled truck up the ramp.

We took a rear axle plate, pinned

and welded a front spindle on it, adding a front hub to it. We tighten the brake on the broken axle to hold the axle in and the wheel from coming out, and bolt a plate on the broken axle plate. The same wheel is bolted to the front hub. In this way the truck can be towed in and up that steep spiral ramp.

Another device is an overhead swivel arm holding brush and hose which emit a soapy solution for washing a truck. Synthetic soap from a quart container is flushed by water pressure into a 60-gal tank and piped overhead

by hose into the brush-holding device. A clear water bath follows.

I have designed a pneumatic tool for repairing and forming links in tire chains. Replacing tedious manual operations, the machine cuts, opens and clamps the links.

To facilitate putting chains on 48 trucks on a morning with icy streets, I have devised a 25-ft chain rack within arm's reach at a height of 7-ft. Holding 100 sets of chains, this 2-in. pipe is equipped with 1/4-in. tapered pins 2-in. apart on which the chains are hung. Three supports at intervals of 6 ft help bear the weight. By the amount of floor clearance we can determine immediately our 15, 16, 17 or 20's.

A 12-in. plank across the lower-third of the chain rack prevents the bumpers from getting tangled up in the chains when a truck backs into the chain rack.

I have also designed my own roller partition on our diaper trucks. Built on skate wheels on floor tracks and overhead garage door tracks with rollers on the sides, this partition may be pushed forward as clean work is delivered. Thus, the rear wheels of the truck are relieved of their heavy weight as the load is gradually moved forward, and incoming work may be moved to the center. The partition also provides a separate compartment for soiled laundry. Seven of our diaper trucks are equipped with these partitions.

All the short cuts, devices and new approaches that I have reported here hinge for ultimate effectiveness, as any shop foreman knows, on that X-factor, the truck operator.

All-Traction Tires

WE do not use standard truck tires on our rear wheels. We use an all-traction tread tire suited to highway travel and mud roads. Operating within a radius of 15 miles of Washington over rough and muddy roads in suburban Virginia and Maryland, our heaviest loaded trucks were getting stuck in the mud as frequently as three times a week. We would either have to send over a crane, have one of our mechanics "snatch" them out, or frequently a neighborhood garage came to the rescue. These towing bills ran as high as \$9.

We met this problem with the all-traction tread tires for our rear wheels. We find we have reduced towing costs 75 per cent by this move, despite the 10 per cent higher cost of this type of tire. The heavy lugs at the side give traction and the heavy center treads give wear. We get more mileage out of these tires—8000 instead of the 6000 we get out of standard truck tires.

END

Please Resume Reading Page 66

COMMERCIAL CAR JOURNAL, August, 1951

for greater safety



turn signals



KD 714F

with built-in flasher and fuse

Operators like this KD Switch with its audible click and flashing red indicator light . . . both continuous when in operation. Installation is simple . . .

three-way circuit . . . mounts right or left on steering column or on dash . . . adjustable finger-tip control. Heavy duty black enameled body.



SINGLE FACE
KD 89457 Black Door
KD CD9457 Chrome Door



FLUSH MOUNTING
KD 89459 Black Door
KD CD9459 Chrome Door



DOUBLE FACE
KD 89458 Black Door
KD CD9458 Chrome Door

These positive KD signals can be seen 100 feet . . . day or night. Duotone plastic arrow-lens shines uniformly brilliant

amber when lighted. Easy mounting . . . in any position . . . right or left . . . arrow rotates.

KITS KD 575-7M includes two KD 9458, two KD 9457, KD 714F Switch, and brackets for easy installation. KD 575-8M includes two KD 9458, two KD 9459, KD 714F Switch.

THE
COMPLETE
LINE

KD Class "A" Turn Signals for trucks and Turn Signals for cars and light commercial vehicles. Saftee Products for every automotive need and State requirement.

PROTECTED BY
BONDERITE
CORROSION RESISTANT

K-D LAMP COMPANY

1910 ELM STREET
WAREHOUSES: CHICAGO

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LOS ANGELES - NEW YORK

Rely on the

DELCO LINE

for

protecting equipment

maintaining schedules

availability of units and parts

ease of replacement



SHOCK ABSORBERS
for ALL cars,
trucks and buses

There are no shock absorbers like *hydraulics* . . . no hydraulics like *Delcos*. That explains why more cars, trucks and buses are equipped with Delcos than with shock absorbers of any other make. It explains, too, why you can *rely on the Delco line* to help minimize operating and maintenance costs. The widespread United Motors organization makes Delco replacement units and parts readily available.

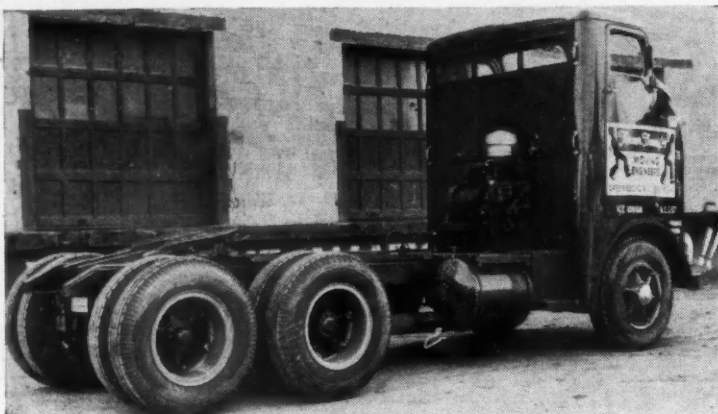
DELCO PRODUCTS

Division of General Motors Corporation, Dayton, Ohio



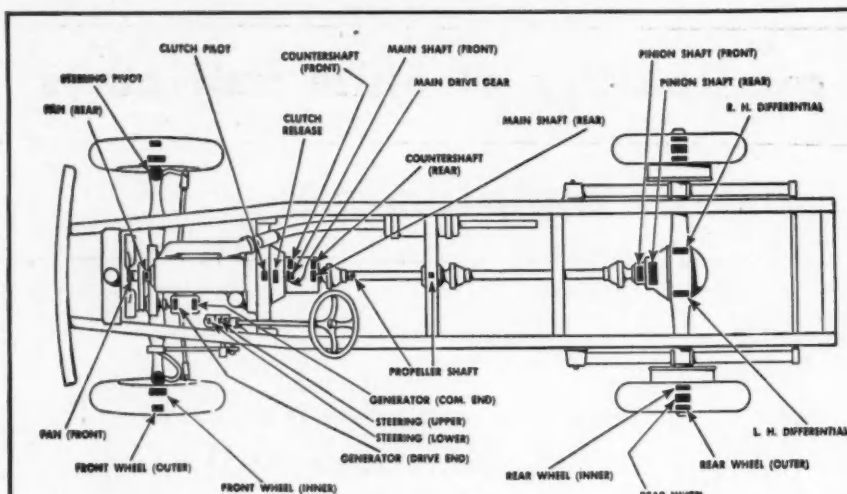
**DELCO SHOCK ABSORBERS—
A UNITED MOTORS LINE**
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS





Tall Tractor

**Utilizes full legal width;
gives maximum visibility**

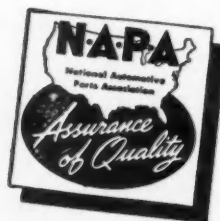


Anti-Friction Bearings are the Heart of your business

Anti-friction bearings are the very heart of automotive equipment and, therefore, the very heart of your business. Whether it be ball, taper roller, straight roller or thrust bearing, your customer depends on you for full anti-friction bearing service.

Federal has just issued a combined catalog listing all anti-friction bearing data on all passenger cars and 96% of all trucks registered from 1932 to 1950. With it—and a complete range of anti-friction bearings—you can become automotive bearing headquarters for your local community.

This anti-friction bearing service is available through your NAPA Jobber. Ask him today for the new Federal catalog entitled "Complete Anti-Friction Bearing Data," or write us on your letterhead.



**Order FEDERAL
BALL BEARINGS**
from your
**NAPA Jobber
or Warehouse**

Federal BALL BEARINGS

THE FEDERAL BEARINGS CO., INC., Poughkeepsie, New York

The Most Complete Line of Ball Bearings for the Automotive Industry



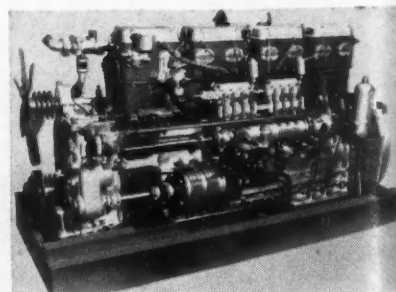
SOMETHING REALLY NEW in c.o.e. models has been added to the fleet of Turner Transfer, Inc., Greensboro, N. C. It is a 6 x 2 tractor with an unusually high cab designed and built to Turner specifications by the Corbitt Co., Henderson, N. C.

There are many features that are considered unusual with this model. The cab was originated to give the driver a better view of traffic approaching from either direction. He may see over all highway vehicles except trailer vans, as the eye level is 10 ft above the road. The cab allows full width within legal limits, where four men may sit comfortably. In addition, a sleeper bunk is provided under the front hood while a second man may sleep on the three-man seat. The driver's seat is separate. The cab is tilted hydraulically, giving easy accessibility to the engine and components for servicing.

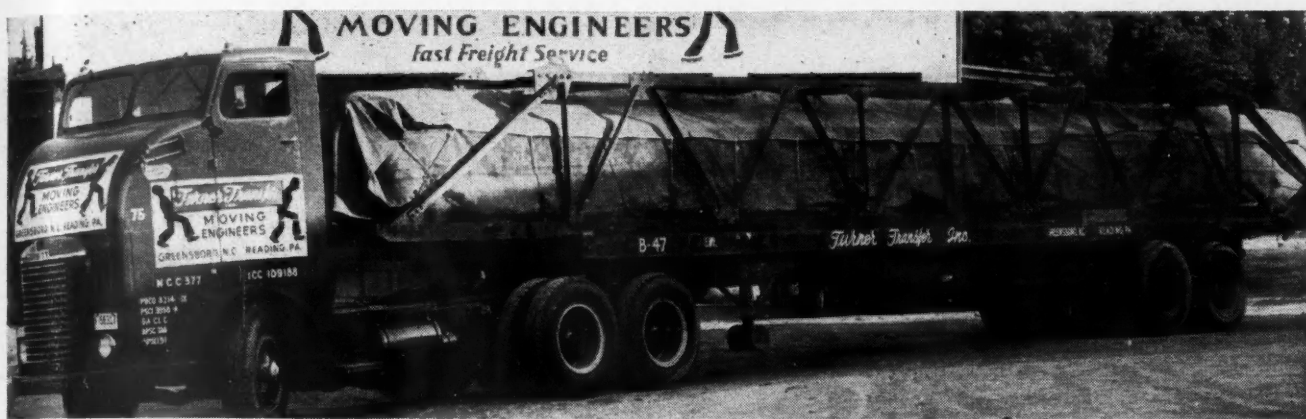
Imported Power Plant

THE unit is powered by a 680 cu in. Gardner diesel made in England and imported exclusively by Turner Transfer. It is an in-line 8 cyl. model with an aluminum crankcase, developing 175 hp at 1700 rpm. The engine weighs 1850 lb.

The design of the cab allows an



The new tractor is powered by a Gardner oil engine manufactured in England and imported by Turner. It is an 8-cyl, 680 cu. in., oil model



opening behind the engine which acts as a ventilating exit. This takes much of the heat from the upper structure of the cab. The engine also has an air-cooled oil cooler. The oil change period is from 4000 to 6000 miles on detergent oils with a base overhaul period predicted at 140,000 miles.

Operational Advantages Claimed

IN operation, there are many advantages claimed for the tall cab feature. First, it places the driver's position as far to the left as possible, an advantage in maneuvering in traffic. In addition, the driver has an unobstructed view to the rear, both over the load and down each side. When driving in a ground fog, the line of vision is above the glare area of the truck's own headlights and above the same glare area of oncoming traffic in both clear and foggy weather conditions.

The combination shown above is designed to transport unusually long hosiery machinery carried by Turner, and is suited to extremely long loads. The overall length of the unit shown including the load overhang is 63 ft 4 in. The tractor is a 6 x 2, with a Turner-designed trailing axle. Other units in production, however, are 4 x 2 drive.



Hugh H. Keeling, secretary, (left) and Guy M. Turner, president, (right) are shown with the new tall tractor developed by Turner

EASIER, QUICKER WAY TO REBUILD CARBURETORS

Hailed by Fleet Operators & Mechanics

The HYGRADE Fingertip System

The Fingertip System makes a carburetor expert out of any competent mechanic in 1 week's time.

Lops as much as 25% off the time sheet for shops that are already rebuilding carburetors.

You'll have real insurance against "down-time" because you *know* that every part that wears has been replaced with a *brand new part* from the Hygrade kit. Without leaving the shop—in a matter of hours—every mechanic can learn to dis-assemble and rebuild a carburetor.

All the mumbo-jumbo that mechanics used to associate with carburetor rebuilding is gone. Packed in every kit are clear step-by-step instructions,

arranged in sequence of assembly which tie in with large exploded-view drawings and photos. The location of parts on these pictures is so easy that parts practically fall into place by themselves.

THE HYGRADE FINGERTIP KIT

ALL THE PARTS the mechanic needs for rebuilding a carburetor are literally at his fingertips . . . packed and labeled in separate envelopes for each assembly operation. Work is done step-by-step, envelope by envelope. (As each assembly operation is completed all the parts in that envelope are used up.)

For real insurance against "down-time", write us—giving the make and model of one of the carburetors you use. We will send a sample instruction sheet. Convince yourself by actual test, how easy carburetor rebuilding can be.

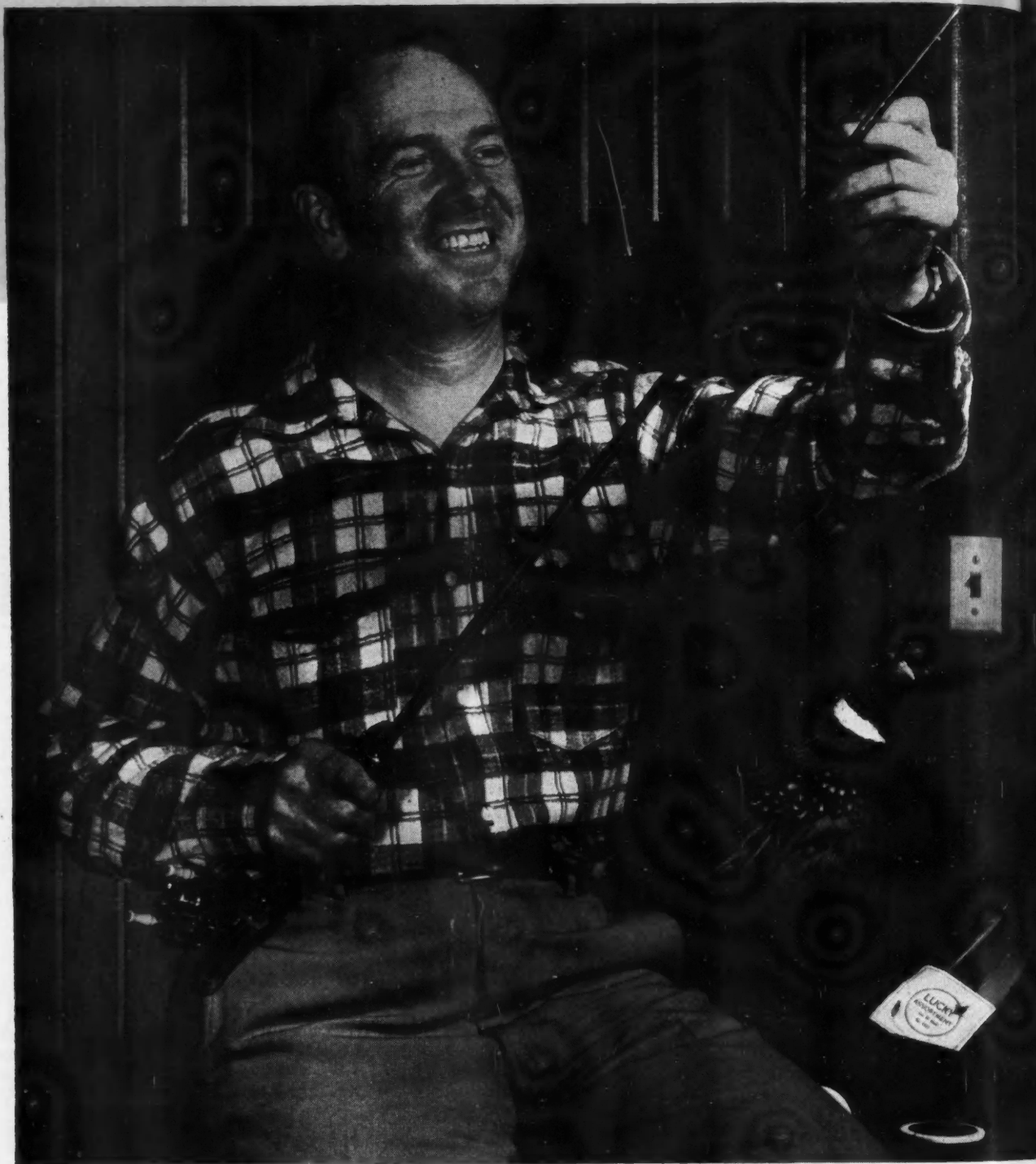
SAVE GAS • SAVE ON DOWN-TIME

OPERATE YOUR OWN CARBURETOR REBUILDING DEPT.

with the Hygrade Fingertip System. You save time; you save money; you know the carburetor has been completely rebuilt with brand new parts.

Write today, on your company letterhead, for **FREE** sample instruction page from the Hygrade Manual.

HYGRADE PRODUCTS DIVISION
STANDARD MOTOR PRODUCTS
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MR. J. F. McCLARY, Superintendent of Equipment,
Riss & Co., Inc., North Kansas City, Missouri,
preparing to enjoy his hobby—fishing

"THE 374 trucks in the Riss & Co., Inc. fleet travel over 5,000,000 miles a year, with individual trucks often clocking 75,000 miles. "For this amount of mileage we must have sure, dependable equipment to meet our

schedules and keep our trucks rolling. "For over 3 years we've used Auto-Lite Batteries in our trucks and they've consistently met the high standards we demand of all our trucking equipment."



AUTO-LITE

batteries

THERE IS AN AUTO-LITE BATTERY FOR EVERY USE — CARS • TAXICABS • TRUCKS • BUSES • TRACTORS • DIESEL MOTOR

Safety Saves \$60,000

Continued from Page 53

is placed on the company payroll for a 30-day probation for the last of his pre-assignment training.

We have four driver supervisors; one at Pocatello, one at Boise, one at Salt Lake city, and the fourth at San Francisco. It is the duty of these road driver supervisors to take direct charge of each new driver who is on 30-day trial.

Applicant Gets Shop Time

THE supervisor takes the man to each department, where the work of the organization is explained. The new driver may spend as much time as a week in the shop; observing maintenance work and familiarizing himself with our PM program. Also, the supervisor trains the new man in road repair

and care of equipment as set forth in our driver's manual.

This 30-day adjustment ends the pre-assignment training. At the end of the 30 days, if the new driver is certified by the supervisor to which he is assigned, he is given a line or pickup driving job.

Safety Work a 24-Hour Job

OUR safety program is built around a safety director, four driver supervisors, who are field safety men, and a committee, or round table monthly meeting with meetings staggered so that all can attend.

We issue regular bulletins on safety. These are built around some special need we have found from accident records. However, we have found that bulletins are not as effective as the round-table discussions, where the matters can be brought out and discussed frankly with plenty of questions and answers.

In addition to the regular meetings and bulletins, we maintain and supervise a tachograph program. We have installed in all of our line units, as well as some of our pickup trucks, tachograph clocks and charts in order to control speed, check stops, speed down grades, and so forth. The tachograph charts are matched at division points with the driver's trip card for comparison.

We do not permit the driver to install or remove any tachograph charts. This is performed by a designated individual, who records tachograph charts inserted and removed. The drivers have expressed their appreciation of the tachographs; because of their feeling of protection, as well as to enable management to recognize those drivers who are doing their job properly.

We have found, through the use of tachograph charts, that we have been able to prove the exact location of our equipment at any given time, as well as the speed the vehicle was driven. Oftentimes in an accident the speed of our unit is greatly exaggerated by eye witnesses, principally because of the size of the unit. Only by having proof through tachograph charts have we been able to disprove this evidence.

In addition to the tachograph program to check the drivers, we have the very helpful assistance of our insurance carrier, who maintains road patrols and sends us observation reports, plus the tachograph charts, which give us a complete picture of what each driver is doing.

Safety Awards

WE ARE completing a safety award plan which starts with the division drivers. A driver must win a division (TURN TO PAGE 140, PLEASE)



Why Does the Good Driver Like the Servis Recorder?

— because he knows it is NOT a "detective" to spy on him— but actually helps him, in two ways:

1. Its chart shows his full day's work—no time wasted anywhere—thus *proving* to the boss that he really is a good driver; naturally he likes that recognition and approval.
2. Also, he knows the SERVIS RECORDER helps to *even up the work* among the drivers. If he has too heavy a working schedule, and if the Recorder chart on another truck shows that it hasn't quite enough to keep it busy all day, the boss sees that and gives him relief by shifting some of his work-load.

For example, look at the Chart shown below. That truck wasn't working between 2 and 4 o'clock—standing idle somewhere for two hours!

If such delays are frequent with that truck then it hasn't enough to do and it can easily relieve some other overworked driver. And the good driver knows that. Send for the full story. THE SERVICE RECORDER CO., 1375 Euclid Avenue, Cleveland 15, Ohio.

THE CHART

Here's the story of the day's work — all busy time and idle time —and Overtime, too.

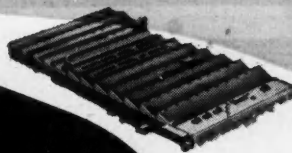


The Servis Recorder
The Good Driver's Best Friend

Kelsey-Hayes



...in DEFENSE
and PEACE-TIME
production



Kelsey-Hayes
Los Angeles, Cal. Plant



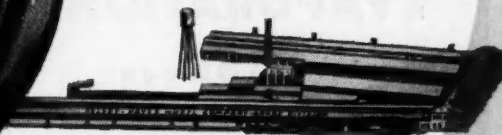
Kelsey-Hayes
Detroit, Mich., McGraw Plant



Kelsey-Hayes
Windsor, Ont., Canada Plant



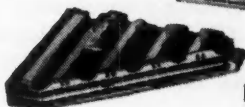
Kelsey-Hayes
Detroit Mich., Military Plant



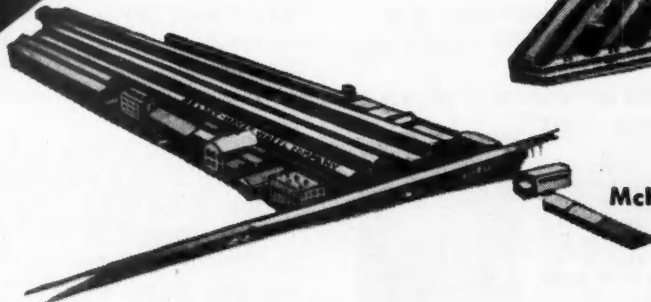
Kelsey-Hayes
Jackson, Mich. Plant



Kelsey-Hayes
Davenport, Iowa Plant



Kelsey-Hayes
McKeesport, Penna. Plant

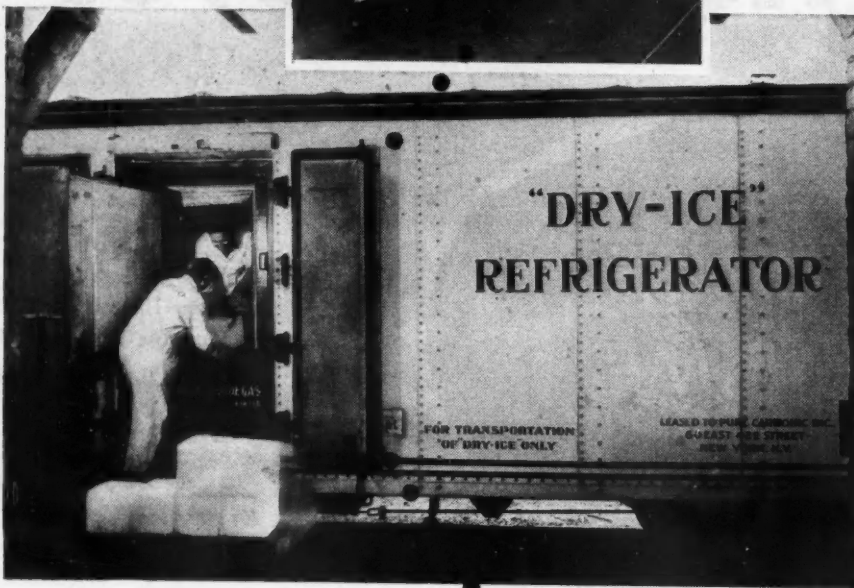
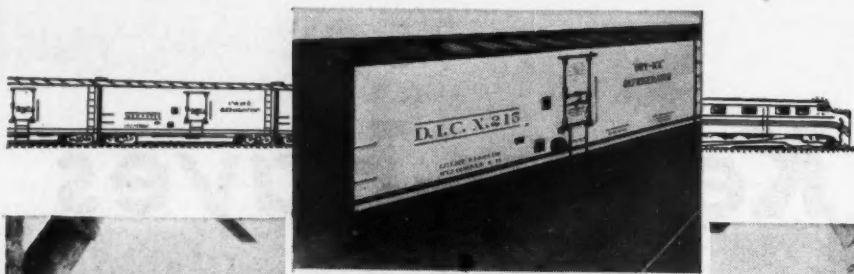


FOR MILITARY AND CIVILIAN USE:

- Wheels, brakes, hubs and drums for cars, trucks, tractors . . . and cargo trailers, troop carriers, gun carriages, tanks, etc.
- Electric brakes, brake power equipment, power chambers . . . and valves for all types of military and civilian vehicles.
- Shells and shell casings, rockets, and aircraft engine parts, etc.

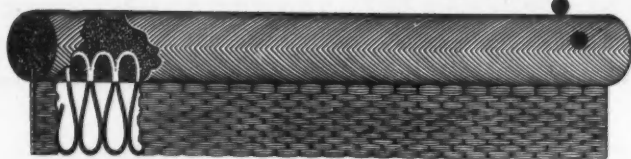
KELSEY-HAYES WHEEL COMPANY

MILITARY AVE., DETROIT 32, MICHIGAN



**INSIDE STORY
OF HOW "REEFER" CARS
CUT
EVAPORATION
LOSS...**

FROM
35%
TO
3%



● Inside the doors of Pure Carbonic's dry-ice "reefer" cars is a gasket of INNER-SEAL . . . the only weatherstripping made differently.

As the cutaway shows, its base is *live sponge rubber*. That's why it compresses . . . seals tighter, bounces back to shape despite the hardest slams. Never cracks like hollow strips. No wonder INNER-SEAL practically eliminated evaporation loss at temperatures of -110° F. in these cars.

As you can see, the flange is *woven spring-wire* . . . so flexible that it fits sharp corners like a glove. Final protection is a *waterproof neoprene coating* . . . resistant

to sub-zero or tropic temperatures, grease, oil, sunlight and abrasion.

FREE samples . . . data on sizes, shapes, colors, scores of locomotive, passenger and "reefer" car uses.

**STROBOSCOPE OF "JUMP TEST" PROVES IT
SEALS TIGHTER, LASTS
LONGER!**

Springy live-rubber's the reason. Action-stopping stroboscope photos prove it. Both ends of a strip were pressed together, then released . . . resulting in the lively spring action you see.



INNER-SEAL
WEATHERSTRIPPING



STAYS LIVELIER LONGER... SAVES MORE FUEL

BRIDGEPORT FABRICS, INC., BRIDGEPORT 1, CONN.

140

Garrett Safety . . .

Continued from Page 138

award before competing for a grand award. No driver can compete for an award unless he has driven one year without ANY accident. Our award contest is divided into two sections—awards for road drivers and awards for pickup drivers.

The division award for both sections is a gold signet safety ring. The winners of division awards compete for grand prizes. There are two sets of grand prizes given—one for road drivers and one for pickup drivers.

Grand prizes vary with each contest. For our recent contest we offered the following grand prizes in the two groups.

Winner of the grand prize for line driving has the choice of \$300 in fishing equipment, or \$300 radio-phonograph combination, or a vacation trip with \$300 expenses paid.

Winner of the grand prize for pickup driving has the choice of \$200 for fishing equipment, \$200 for a radio-phonograph combination, or \$200 for expenses for a vacation trip.

Feeling that recognition for a job well done is conducive to good work we have recently started a competitive program among the drivers. The program is simple, in that at each station the drivers are divided into two groups—line drivers and pickup drivers. The group, either pickup or line drivers, which completes 60 consecutive days without any type of accident is given a steak dinner at company expense. If the other group is involved in an accident they, of course, are not invited to the dinner. Naturally, the good natured ribbing has its effect.

If the group goes 90 days without an accident, another dinner is given and the drivers' wives or mother or a friend, are invited. These dinners are for good food and entertainment only—no safety talk—no safety promotion of any sort.

While this has been in force only a relatively short time, it has proved a great goodwill and morale builder.

Management definitely feels that regardless of any program that may be installed, the success or failure of that program depends upon the attention given it. It is not sufficient merely to have a program. There must be the desire and cooperation of, not only management, but of the employees themselves. We definitely feel that constant supervision, plus honest interest in each individual driver, is the keynote of a successful safety program.

(TURN TO PAGE 144, PLEASE)

COMMERCIAL CAR JOURNAL, August, 1951

.... WALKER *Series* 900

Favorite through the years for truck, bus, passenger car fleets . . . tractors and farm implements . . . construction machinery . . . military vehicles and industry. Leading portable hydraulic in service stations, garages, repair shops, car and implement dealers across the country.

● Ever since the days of the first portable hydraulic jack, Walker has been the popular choice wherever jacks are used. Every improvement has brought thousands of new users—and the developments have been many and constant.

Today, Walker *Series 900* is the standby of millions . . . known throughout the world for brute strength and precision controls . . . famous for design and detail. From the *Series 900* has come ever-increasing standards of safety and service, of smooth, fast, dependable operation on every job in every field.

Witness Walker *Ryth-Matic Valve Action*—

suction and discharge valves working in perfect synchronization at lightning speed. Examine the modern *Projectile Tank*, designed in the shape of a heavy armor piercing shell to withstand greater shock and to distribute weight evenly. Test Walker's sensational *Micro-Accurate Release*. Compare *Series 900 Pendulum Balance* for easy positioning.

Here you'll find good reason for the tremendous popularity of Walker *Series 900*. Here you'll find proof that *Series 900* is the most modern, most practical and versatile portable hydraulic—the greatest dollar-for-dollar jack value ever engineered.

WALKER MANUFACTURING CO. OF WISCONSIN • RACINE, WISCONSIN

Walker Jacks, Exhaust Silencers, Oil Filters and Electric Lifts



Leads in Jacks

Garrett Safety . . .

Continued from Page 140

Some Program Results

THE past two years, under our present safety program, we have won first place in the Greater Los Angeles Safety Council Contest, Over-the-Road division. These awards are given to operators who hold the lowest accident rate for the over-the-road operation.

Fleetwise, the program is paying off in a number of ways. One of these is the reduced number of accident claims and incidental costs. Expensive accident repairs have been reduced appreciably, as have lost driver time, delivery schedules, and so on.

A good specific example concerns insurance premium savings. Our insurance is on a retrospective program. For the past three years under the present safety program, the company has received a substantial return because of the reduced accident rate. As an off-hand estimate, the savings will

run over \$60,000 per year for the past three years. Our accident rate for over-the-road operation during the last two years is shown in the accompanying chart. Frankly, the chart while entirely factual, doesn't show our results off to best advantage. This is, principally, because our records are based on the calendar year and the chart is not.

The first year on the chart shows, for example, that our accident ratio is 1.15 accidents per 100,000 miles from June, 1949, to May, 1950. Our figures for 1949 alone, on the other hand, show a .78 ratio. However, the second year charted shows .60, which more nearly represents the actual picture for 1950, although the chart includes the first five months of 1951.

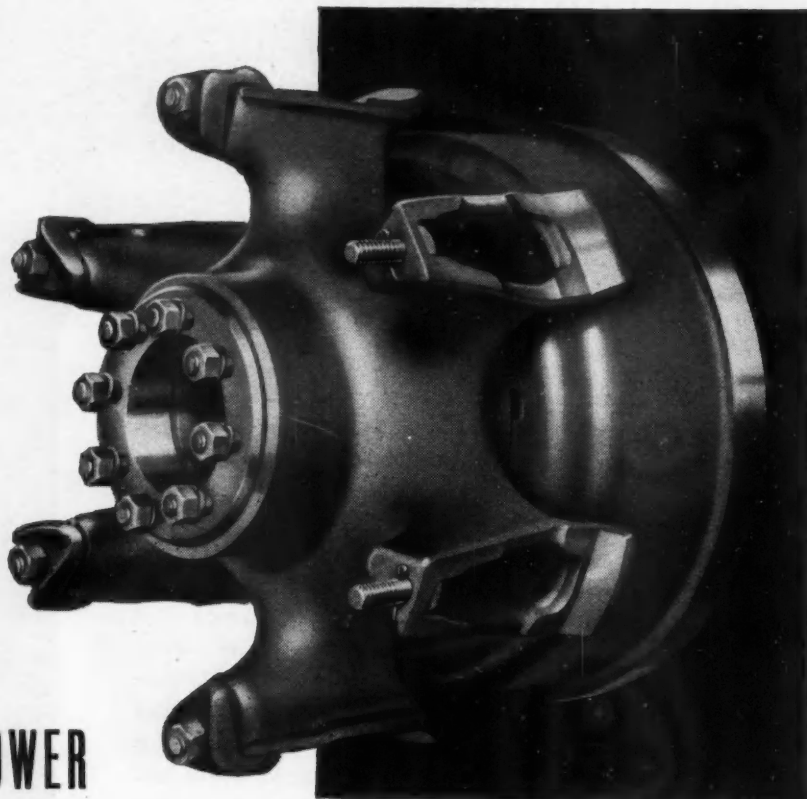
During 1950, we came out second in the ATA Contest. This year we hope to do better.

Program Costs \$35,000

EXCLUSIVE of salaries, this safety program and our pre-employment screening cost us an average of \$2500 per year. This figure includes the publication of a monthly magazine which has a circulation of 650 copies. For the entire personnel, salaries and expenses, and safety awards, \$25,000 per year was required. In 1950, the entire fund was increased to \$35,000, which includes salaries for two additional employees and covers the expenses for drivers' dinners.

END

Please Resume Reading Page 54



**LOWER
MAINTENANCE COSTS are yours with**

GUNITE

**cast-
steel
wheels**
for heavy-duty
trucks and trailers

Enjoy lower cost per mile and the superior strength and safety of Gunitite Cast-Steel Wheel assemblies on your highway hauling equipment. Lower cost per mile is due to minimum unsprung weight which reduces wheel maintenance and tire wear . . . and to superior performance of Gunitite Brake Drums.

GUNITE FOUNDRIES CORPORATION

FOUNDED IN 1854

• ROCKFORD, ILLINOIS

Watch for Labor Shortage

A warning has been sounded to keep alert for a labor shortage due in the early fall. It comes from DTA, and a sister-industry, when H. K. Osgood, who is head of the Warehousing and Storage Division, offered the following solution. This may apply to the trucking industry as well:

1. Use available manpower with the greatest efficiency and streamline handling procedures;
2. Mechanize handling operations, keeping equipment in good repair and acquiring new equipment when possible;
3. Step up maintenance programs to assure maximum operating capacity;
4. Avoid layoffs by using personnel in reconditioning and repair of facilities;
5. Develop a training program for skilled and semi-skilled labor, that present labor information indicates will be in short supply;
6. Establish the best labor-management relations.



SPECIAL TOOL REQUIREMENTS FOR BASIC REPAIR SERVICE ON GM DIESEL ENGINES

ENGINE OVERHAUL		
TOOL NO.	DESCRIPTION	PRICE
J 1359	Crankshaft Oil Seal Expander	11.95
J 1686	Connecting Rod Bushing Reamer Set	79.50
J 1902-A	Camshaft Gear Puller	13.50
J 1927-A	Flywheel Housing Aligning Studs (4)	3.70
J 1928	Cylinder Head Stud Nut Wrench	5.20
KMO 232	Piston Ring Remover and Replacer	1.50
J 1903	Camshaft and Oil Pump Gear Replacer	4.95
J 1904-A	Flywheel Loosening Jack Screws	2.50
J 1909	Cylinder Liner Clamps (Set of 3)	4.75
J 1918	Cylinder Liner Remover	19.95
J 3272-	Piston Installing Tool	11.95
J 3174-A	Feeler Gauge Set (For piston fitting)	2.75
J 1917-A	Tachometer Drive Puller	11.50

ENGINE TUNE-UP		
TOOL NO.	DESCRIPTION	PRICE
J 1242	Injector Timing Gauge (Std. Output 1.484")	.95
J 1853	Injector Timing Gauge (High Output 1.460")	.95
J 1319-A	Cylinder Compression Gauge	38.50
J 1652-A	Governor Spring Retainer Nut Wrench	2.25
KMO 233	Valve Lash Feeler Gauge (.008"-.010")	.45
KMO 233-B	Valve Lash Feeler Gauge (.011" and .013")	.45
KMO 320	Fuel Pressure Gauge	4.95

CYLINDER HEAD OVERHAUL		
TOOL NO.	DESCRIPTION	PRICE
J 2202-A	Injector Copper Tube Installer Set	15.95
J 267	Valve Guide Remover 1/2" Guide	1.85
J 4144	Valve Guide Replacer	2.90
J 3091	Valve Seat Insert Remover	15.95
J 1736	Valve Seat Insert Replacer	4.85
J 3087	Cylinder Head Holding Plates (Pair)	18.65

TERMS: C.O.D. orders shipped net, F.O.B. Detroit. 5% discount allowed cash with order. All prices subject to change without notice, and all orders subject to confirmation by Kent-Moore Organization, Inc.

KENT-MOORE ORGANIZATION, INC.

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YOURS FOR THE ASKING! 24-Page Special Service Tool Guide for owners of G.M. Diesel Engines. Write Dept. D. for your free copy today!



Palletizing Program Breaks Bottlenecks

Continued from Page 71

driver-salesman fatigue. In fact, the truck beds were designed to maximize ease with which drivers could reach the bottles.

From the ground to the top of the truck bed is 32-in., and from the ground to the neck of bottles on the upper stack it's 84-in. Which means the driver can reach, without too much

strain, all bottles except those on the top row; and these he reaches by standing on foot racks built on each side under the bed.

Aluminum Retainers

FOR transport trucks, a unique aluminum retainer, which weighs just 21 lb, was designed to replace the older

stake-and-wood panels, which weighed 75 lb. Cutting the weight of this retainer has helped eliminate work hazards.

The new retainer is essentially two aluminum stakes, running the height of the load vertically, with three cross members. The entire fixture is made from 14 gage aluminum. A retainer fits in front of each pallet-sized compartment, and its top slips into notches in the aluminum bed-partition. Two western gate locks on the fixture's bottom member hold it to the partition.

The top horizontal aluminum bar—like the others, about 5½-in. wide—is coated on the bottom with about an ⅛-in. rubber strip to prevent breaking the bottles. The middle and lower horizontal stakes are fabricated half-round, with the rounded side toward the bottles and fitting neatly between adjacent rows. This half-round feature holds the bottles snugly, helps them to ride steadily on the pallets, and guarantees against cargo loss.

Breakage in handling and transporting such loads as glass is high, but Arrowhead officials say that aluminum retainers, together with smooth-running fork lifts have cut breakage to a minimum.

Fork Lift Clamps Hold Load

IN THE early stage of our palletize program, some bottles were lost as they were being carried, crated, from the bottling line to the trucks via fork lifts.

To stop breakage at this point, a special mechanically-actuated clamp was designed into the fork-lifts. When the lift picks up a pallet, the clamp automatically "hugs" the crated bottles to the pallet.

These specialized handling problems and their solution were part of a \$250,000 project which Arrowhead & Puritas Waters, Inc., began three years ago. It is probably one of the most advanced, specialized fleet operations in the nation. It should point the way to other fleet owners with similar bottle-handling problems.

END

Please Resume Reading Page 72

Toll Charges Decline

The Port of New York Authority has announced a scheduled reduction in truck and bus tolls effective September 1, on various bridges and tunnels under its jurisdiction. The toll reduction will affect regular users of the Authority's system by employing script for a 25-trip discount of 10 per cent. The script is to be sold in denominations of 25 cents, 50 cents, and \$1.

COMMERCIAL CAR JOURNAL, August, 1951



you'll sure get a lot of use out of
**THE NEW AIRCO
700 WELDING TORCH!**

Just Name It—the "700" can weld it...brazing it...or cut it.

Noted for its versatility, this exceptional torch is designed to handle oxyacetylene welding and brazing repair work in your shop . . . and when equipped with a multi-flame tip, it is unbeatable for pre-heating fenders prior to straightening. Also, with the addition of a cutting attachment, the "700" is easily converted to handle occasional cutting jobs.

The new "700" is highly recommended for repairing torn fenders, body braces, headlight brackets, bumper supports, and many parts.

If you would like more information or a free demonstration right in your own shop, get in touch with your nearby Airco Authorized Dealer, or local office today.



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REPRESENTED INTERNATIONALLY BY AIRCO COMPANY INTERNATIONAL
Divisions of Air Reduction Company, Incorporated
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Plus a Nationwide Dealer Organization

Here are FACTS about America's Ruined Roads...

THIS IS A SUBJECT OF VITAL
INTEREST TO EVERYONE—
ESPECIALLY THOSE ASSOCIATED
WITH THE TRUCKING INDUS-
TRY! THE COUPON BELOW
BRINGS YOU THE STORY
BEHIND AMERICA'S BROKEN
HIGHWAYS!

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The Timken-Detroit Axle Company
100 Clark St., Detroit 32, Michigan

A-2

Gentlemen: Please send me the story of the "Ruined Roads".

My Name _____

Address _____

City _____ Zone _____ State _____



This entire issue of The Timken-Detroit Axle News is devoted to an authentic, factual report by A. B. Gorman on what is causing America's "Ruined Roads." It is a straightforward, interesting—and very enlightening—article, complete with unretouched photographs.

TIMKEN
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A PRODUCT OF THE TIMKEN-DETROIT AXLE COMPANY
DETROIT 32, MICHIGAN



Schools Promote Precision Tests

Continued from Page 59

that testing equipment is only as good as the man using it. Sun realized early that one wrong conclusion with regard to improper engine operation, or an incorrect reading of a gage can work more havoc than a month of good procedures can remedy. And too often a hasty diagnosis in the past failed to

show up engine or electrical troubles before they produced road failures or high operating costs.

A study of road breakdowns by AAA proves this point. Recent figures show that battery failures caused 24.55 per cent of the breakdowns occurring in 1950. Ignition failures—8.88 per cent;

carburetor failures—5.72 per cent; starter failures—2.28 per cent; gas line failures—1.38 per cent; failure of lights—8.05 per cent. Adding these together we can see that over 50 per cent of failures of passenger cars resulted from breakdown of component units that should have been tested—could have been tested and caught by good mechanics with reliable testers used intelligently. Of course, fleet operation poses different problems. Yet a CCJ survey on road failures conducted recently showed that the electrical system first, and the fuel system second, were highest on the list of such road delays.

Fleetmen recognize the importance of precision and skill in those who maintain their vehicles and have taken steps in many cases to install mechanic training programs in a move to secure improved vehicle operation. However, on-the-job training is expensive—in equipment, in supervising personnel, in employee time, and many will find Sun's facilities of great value.

The Sun special one-week course for fleet mechanics deals strictly with the testing of heavy-duty engines. It is designed to turn out men who will test instead of guess. It is set up to give the men a review of the operation of each electrical unit, but primarily to show how to use testing instruments in checking and adjusting for peak horsepower, efficient electrical units and long engine life.

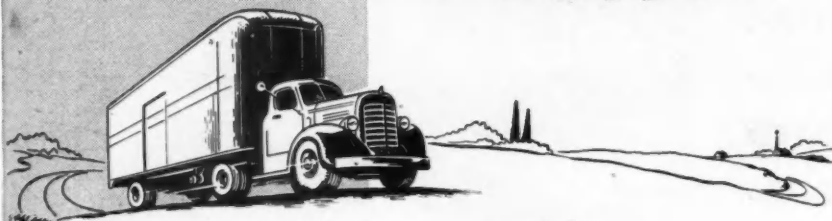
The 40-hour course is divided into three phases—classroom instruction, the operation of various test procedures in each phase of engine tune up, and the on-the-vehicle tests and adjustments. In spacious, well-lighted class rooms instructors discuss the working principles of each electrical unit; they conduct a dry-run test on a demonstrator engine; then they show how to diagnose troubles from a reading of the test meters—to show how to tell a good unit from a defective one.

In adjacent well-equipped shops the students then make tests themselves under the supervision of the instructor and with the aid of manuals showing each step in the procedure. Finally each individual is assigned a motor tester, a distributor tester and a generator-regulator test bench, where they make tests of all makes of components. Lantern slides, movies and mock-up models are employed to emphasize proper procedures.

My observation reveals there are few mechanics who cannot profit from the course. In fact students interviewed were most appreciative of the review and its contribution to accuracy and precision in their work. New mechanics as well as the seasoned boys who have been working with tune-up equipment

(TURN TO PAGE 152, PLEASE)

Keep'em ROLLING!



with Apco Mossberg RIM WRENCHES

Speed Up Truck Repair Time

IN-THE-SHOP

ON-THE-ROAD



No. 8050 Heavy-Duty Four-Way Rim Wrench. Overall Length 25", Weight 14 lbs.

No. 2648 Two-Piece Rim Wrench Overall Length 18", Weight 5 lbs.

No. 7050 Two-Piece Rim Wrench Overall Length 20", Weight 4 1/2 lbs.

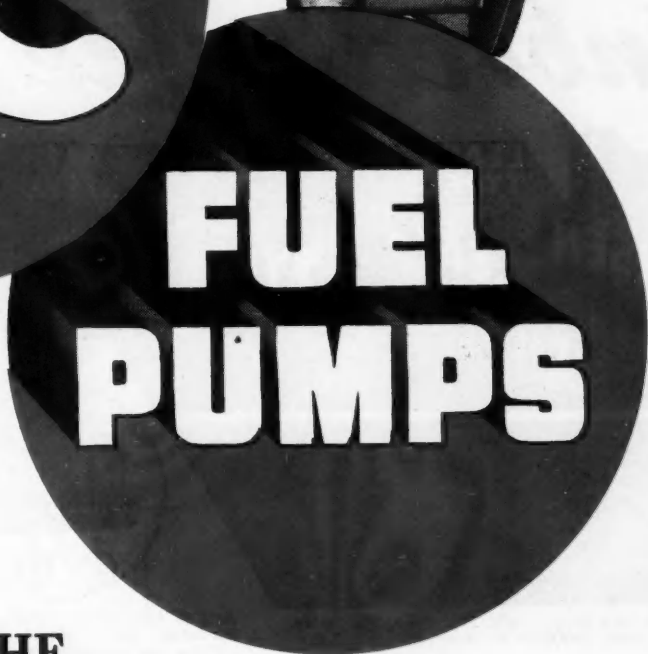
No. WR-2640 Brace Rim Wrench Overall Length 31", Weight 6 1/2 lbs.

Powerfully constructed by steel-forging, these popular wrenches with heavy-duty abilities are designed to fit all makes and models of trucks. Rim wrenches are available in three styles — (1) Two-Piece (2) Four-Way (3) Brace. Each wrench features extra deep sockets for firm grip on nuts, ample leverage requiring less effort to disengage nuts, extra long lengths for sufficient clearance with wire wheels, deep hubs.

Apco Mossberg's complete line of truck wrenches and handy service tools are recognized for superiority by repairmen in fleet shops from coast to coast. Ask your jobber or write today for catalog and prices.

APCO MOSSBERG CO.

187 LAMB STREET, ATTLEBORO, MASS.



THE Original Fuel Pumps

There Are NONE Better

- ★ More than 40,000,000 in use.
- ★ More than 100,000,000 built.
- ★ Backed by 24 years of "know-how."

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION



America's
FIRST *and* FINEST FUEL PUMPS

Sun Schools . . .

Continued from Page 150

for years got a thorough exposure to modern test procedures in this class and the experience will pay off in their later work.

The company appreciates the fact that many men would not be able to spend a full week in such work. Accordingly the identical course is available in night classes conducted in major cities, where two evenings a

week in four-hour sessions are spent in similar work. In addition the same course is set up for one day per week for five weeks so that those may attend in their off days.

A certificate is presented at the end of the course to those who have successfully completed the work. All materials are provided, including shop coats. Manuals and reference material are given the student so that they may be used later as reference. A tuition fee of \$30 is charged.

In Detroit a four-week school is conducted in scientific engine testing for

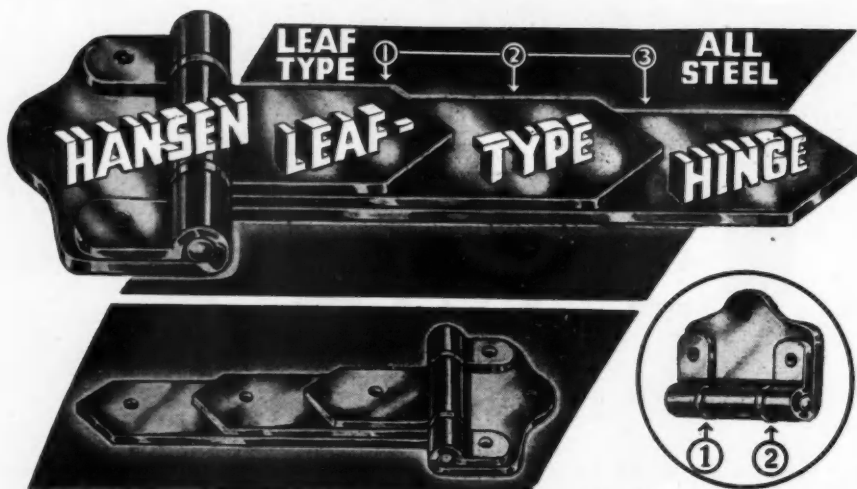
those interested in more advanced training. This is not a course in automotive fundamentals, but is designed to train specialists or diagnosticians. The course requires a knowledge of operating principles of each electrical unit and its relationship to engine operation. This training provides a background in theory of operation, the proper testing procedures and the interpretation of results.

Prospective students are carefully screened by the Board of Admissions and through personal interview by a Sun representative. One to five years experience as a mechanic, tune-up man, tester, service manager or foreman is required—or a high school education plus one to two years of college level work in the basic sciences. It is company policy to keep this training at a high level as it covers a lot of ground and carries the responsibility of the recommendation of the graduate as a testing technician. Thus, awarding of a Diagnostician's Certificate is postponed until the graduate's proficiency has been established by his work on the job. Post-graduate training is offered graduates from time to time and in addition he receives a direct mailing service called the Suntester to keep up to date on new designs, specifications and testing techniques. A tuition fee of \$120 is charged.

END

Please Resume Reading Page 60

Unbreakable!



No. 19 Leaf-Type Hinge, 3-ply, 20" strap, 2 3/4" wide. All-steel. Plain, cadmium or chromium. Wt. 7 lbs.

Arrows (1) and (2) inset, point to hardened steel thrust bearings. These add strength; resist wear.



No. 16 Leaf-Type Hinge, 3-ply, 16" strap, 2 3/4" wide. All-steel. Plain, cadmium or chromium. Wt. 5 3/4 lbs.



No. 12 Leaf-Type Hinge, 3-ply, 12" strap, 2 3/4" wide. All-steel. Plain, cadmium or chromium. Wt. 4 lbs.



No. 6 Leaf-Type Hinge, 8" strap, 1 3/4" wide. All-steel. Plain, cadmium or chromium. Wt. 2 1/2 lbs.

HANSEN Leaf-Type Hinges are made of hard-rolled steel. Strong, durable, attractive, they support the heaviest commercial body doors—and give lasting service.

Hardened Steel Thrust Bearings and Bolt

To give added strength and durability, Hansen Leaf-Type Hinges are fitted with hardened steel thrust bearings. (See inset above.) These bearings provide solidly supported doors and insure easier opening and closing.

Leaf-Type All-Steel Insures Greater Strength

Greater strength is provided by leaf-type construction, which gives greatest strength at base where most needed. Arrows at top point to unique leaf-type design. Leaves are spot-welded.

Hinges Available in Various Types

Hansen Leaf-Type All-Steel Hinges are available in 8", 12", 16", and 20" lengths—chromium, cadmium or plain finish. Brass Hinges, leaf-type, can be supplied in 6", 8" and 12" lengths. Also, round-corner, square-corner and continuous types.



WRITE FOR CATALOG WITH COMPLETE INFORMATION.

A. L. HANSEN MFG. CO.
5047 RAVENSWOOD AVE. CHICAGO 40 ILL.

FLEET NOTES

Pacific Intermountain Express Co., announced today that ground had been broken for the company's new motor freight terminal at Stockton, California. Location of the terminal will be at the corner of Wilson Way and Bishop Streets. The terminal tract, comprising approximately 50,000 square feet has a frontage of 175 feet on Wilson Way and 290 feet on Bishop Street. The building will consist of an office section and a freight dock adjacent to it at the rear.

Spector Motor Service Inc., new Chicago terminal, scheduled to be completed in November, will be the largest terminal in the mid-west, and one of the largest in the world. At a cost of over a million dollars, the terminal will have 25,000 sq ft of dock area with 72 loading doors, with many features that Spector says will speed operations and create a potential, overall saving of \$10,000 annually.

Branch Motor Express Company's giant new freight terminal in lower Manhattan opened July 16. New York operations of the company will be at the new address, 455 W. 16th St. The new Branch plant is situated between 9th and 10th Avenues, extending through from 16th Street to 17th Street. The cost of the 66,000 sq. ft. terminal will run well over \$1,000,000, it was disclosed.



Tied up with endless repair details?

THE fastest possible way to hog-tie a fleet operation is to overlook the major cause of countless minor repair jobs—improper lubrication. Usually a really fine motor oil, like Quaker State HD Oil, can check this trouble.

Quaker State HD Oil, especially tailored for heavy-duty use, goes a long way in reducing annoying repair jobs caused by excessive engine wear. This top-quality oil, refined

with the most modern processing equipment is compounded with chemical detergents of highest quality.

Made from 100% pure Pennsylvania grade crude oil, Quaker State HD Oil keeps its body, lubricates thoroughly, protects fully, cushions every friction surface and prevents the formation of sludge, gum and varnish. It actually cleans as it lubricates. Try it in your equipment soon: watch operating costs drop.

QUAKER STATE
HD OIL

AND SUPERFINE LUBRICANTS

QUAKER STATE OIL REFINING CORPORATION, OIL CITY, PA.

COMMERCIAL CAR JOURNAL, August, 1951

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Motor Transportation, USA

Continued from Page 63

noise is not good, but there now appears to be an answer in the form of the higher priced, specially-designed mufflers, which many of the larger operators are using. Until all are willing to pay the price, the public still puts up with a mighty loud exhaust in a good many regions.

Some LP Gas

IN THE southwest and west coast regions, there is renewed interest in LP gas, brought about primarily by more favorable supply and price of the butane-propane fuels. As far east as Memphis, we ran into truck operations experimenting with these fuels. There

is at least one long-haul operation between Los Angeles and Phoenix and several on the Los Angeles-San Francisco run using LP gas. Here, on the biggest units, the Hall-Scott 400 with LP conversion gear is a 325-hp condenser.

But, of course, the real development in LP gas is among the local bus properties, where central fueling systems can be more easily installed and where the cleaner burning properties pay highest dividends. Chicago Transit leads them all with more than 500 LP jobs in operation. Others include Omaha, Ft. Worth, Ft. Wayne, St. Louis and many smaller users still in the experimental stage. One of them is Amarillo (Texas) Transit where they have replaced some of their oldish Ford transit models with the small ACF, using an LP converted International Harvester engine.

The bus properties, too, have led the way on diesels with the two-cycle reigning supreme in their operations. We ran into several relatively small operations where large size diesels were replacing smaller gasoline jobs, paying their way with increased capacity on slightly reduced headway schedules.

Highways Generally Good

NOW WHAT about the highway picture? We hear a lot of talk these days about our overtaxed and overburdened highway system. People with particular axes to grind will tell you that the nation's highway system is either all terrible or all good, depending on which way their particular interests lie. For our money, the highways, with notable exceptions, looked mostly good. In and around the big cities, from coast to coast, it's badly in need of development, preferably along the lines used by California. There, existing and under-development freeways speed traffic in and out of the cities on four- and six-lane highways.

Our nomination for the country's No. 1 bottleneck is the run from the western terminus of the Pennsylvania Turnpike to East Liverpool, Ohio. This, of course, will be eased when the new Turnpike extension is opened late this year.

(TURN TO PAGE 156, PLEASE)



**Build
a Reputation
for Quality!**

**use only
FACTORY NEW
GENUINE
BENDIX DRIVES
and
PARTS!**

It's easy to build a reputation for quality if you use only genuine parts in your repair work. For example, when you service Bendix* Drives be sure to use only *factory new* Bendix Drives and Parts. This means your customers will get the same dependable performance that is built into every original Bendix Drive—performance proven by over 85,000,000 installations. Insist on *factory new* Bendix Drives and Parts when you order from your distributor.

PUT THIS IN THE BANK
When you install a new Bendix Drive, return the used drive together with the credit exchange tag to the Bendix Central Distributor—it's worth 50c to you in merchandise credit.

50¢



Bendix Drive

ECLIPSE MACHINE DIVISION of
ELMIRA, NEW YORK

Export Sales: Bendix International Division, 72 Fifth Ave., New York 11, New York



"We're almost there, dear, I'd better get back into the cake."



APPROVED for leading national fleets
Sherwin-Williams Kem Transport Enamels
are approved and recommended finishes
for the fleet equipment of Seven-Up
bottling companies which, like many large
national fleet operators, have adopted
Sherwin-Williams Automotive Finishes!

SHORTCUT *to faster finishing* **...KEM® TRANSPORT ENAMEL**

You can't very often count on ideal conditions for getting fleet equipment refinished and back on the job. That's why Sherwin-Williams Kem Transport Enamels are *triple*-tested for their drying properties . . . once at normal room temperature, once with high temperature and high humidity, and again in a cool, damp atmosphere!

And that's one of the reasons why so many companies operating large national fleets approve or specify Kem Transport Enamels as standard finishes. Their average drying time is faster . . . lay-ups are shorter . . . even under abnormal extremes of temperature and humidity.

Kem Transport Enamels represent the finest type of long-lasting, grease-resistant, chemical-resistant, synthetic formulations. Find out what they can offer in your refinishing operations. Call your Sherwin-Williams "OK" automotive jobber today, or write for name of distributor nearest you. The Sherwin-Williams Co., Automotive Division, Cleveland 1, Ohio (Export Sales Division, Newark, N. J.).



SHERWIN-WILLIAMS **AUTOMOTIVE FINISHES**

Motor Transportation

Continued from Page 154

For the state that took the worst beating from last winter's record-breaking weather, Ohio is the undisputed champion. Interestingly and encouragingly, not one of the many Hoosiers we talked to—and they came from all walks of life—blamed trucks for this condition. All pointed the finger at old man winter.

But aside from these local conditions, including as stated above literally thousands of total miles of congested areas, the highway situation is in good order. Our own cruising speed in most areas West of the Mississippi River is not for publication but, in most places, you can roll as fast as safety sense permits without being bothered either by traffic congestion or highway design problems.

Of course, we can't leave the highway situation without lending our support to the old argument between highway engineers and truckers as to who is re-

sponsible for most highway damage. We do not recall a single stretch of highway (except in previously noted Ohio and possibly in highway-strangled Arkansas) where any single stretch of road was continuously bad. But there were a great many—particularly of the cement-concrete variety—where nine slabs would be in good condition and the tenth badly battered. Or there might be a 100 good and 10, in a row, bad.

It puts us in mind of the question raised a year ago as a result of the New Jersey road study. Our editorial was entitled "Do Trucks Fly 97 Per Cent of the Time; Bust Up the Highways the Other 3?" (CCJ, March, '50, p. 19). 'Nough said?

Courtesy Improving

PARTICULARLY in view of ATA's new Stop Tailgating Campaign (CCJ, July, p. 20 and 70), we should include some word about highway courtesy. Of course, it's a lot easier to practice courtesy in the wide open spaces of the West. But even considering this factor, it is our impression that the big Western operators are way ahead of their Eastern counterparts in this respect.

We noted many cases where the big combinations went way out of their way to help motorists pass—by hugging shoulders on the long pulls and pausing at top of grades. Even in the big cities, we noticed a consideration for the motorist seldom found in the East. Of course, there were exceptions—usually the little guys with big vehicles in not too good condition. Perhaps guiltiest of all is that growing curse of the industry, the guy who's ashamed to put his name on his vehicle.

While we personally ran into little difficulty with buses that we encountered, there are growing complaints of the "bull-dozing" characteristics all too often exhibited by drivers of the biggest inter-city coaches. Among these are included the biggest names in the

(TURN TO PAGE 160 PLEASE)

Military Trailer Receives OK



Trailmobile officials have announced the approval by the U. S. Army Corps of Engineers of its new 10-ton tandem platform pictured here. Trailmobile will produce about \$2 million worth of these, the contract states

This...

Helps
Prevent This!

**Only Purolator . . . and
Purolator alone . . .
gives the Extras that
assure Extra Protection**

Extra Filter Area. Purolator gives up to 10 times the filtering area of old-style filters . . . gives longer, more efficient action.

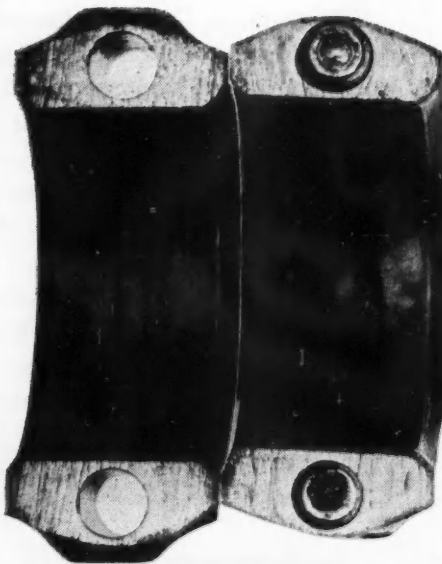
Extra Efficiency. Purolator traps an average of 290% more abrasives than ordinary filters, holds back particles so small they're measured in microns (.000039").

All this . . . Plus freedom from warping and disintegration . . . plus the fact the Purolator* Micronic refill leaves oil additives IN—makes it your best buy—by far.

Your supplier has a Purolator Micronic* refill for practically every make of filter. He is at your service—at all times.

*Reg. U. S. Pat. Off.

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada
Factory Branch Offices: Chicago, Detroit, Los Angeles



Greater protection for heavy-duty engines with...

New and better...

STANOLUBE HD-M

REG. U. S. PAT. OFF.

Motor Oil

● Take a close look at the pistons shown in these enlarged, unretouched photographs. They give graphic evidence of the superior protection new STANOLUBE HD-M Motor Oil offers in automotive diesel and heavy-duty gasoline engines.

The larger of the two pistons was taken from a diesel test engine after 480 hours operation (the Caterpillar No. 1-A Test) and shows clean, deposit-free ring grooves. The smaller was removed after test in a gasoline engine (the Chevrolet 36-hour Test) and reveals no varnish-like deposits on the piston skirt.

Here's graphic proof of two important properties of this new motor oil: improved detergent-dispersant action and greater oxidation stability.

These two properties, proved by laboratory tests and confirmed in extensive field service, mean superior protection under the most severe conditions of high operating temperatures and prolonged periods of operation. Engines stay clean, free of harmful deposits. The results: longer engine life, more miles and hours between overhaul, and less maintenance... even when the going is tougher than ever.

New STANOLUBE HD-M Motor Oil offers these two properties in addition to the same qualities of corrosion resistance and freedom from foaming which helped

make STANOLUBE HD a preferred lubricant for heavy-duty applications during the past nine years. To make the best use of this new and better motor oil, ask for the services of the Standard Oil lubrication specialist in your area. Phone your local Standard Oil Company (Indiana) office or write Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Illinois.

A COMPLETE LINE OF MOTOR OILS FOR EVERY HEAVY-DUTY SERVICE NEED

STANOLUBE HD-M is recommended for all internal combustion engines. It meets U. S. Army specification MIL-0-2104. This lubricant provides excellent cleanliness, low wear rate, and low oil consumption under severe operating conditions. Available in all SAE grades.

STANOLUBE S-1 is recommended for use in automotive, diesel, or gasoline engines where other heavy-duty oils cannot control deposits caused by operational severity or adverse fuel quality. It meets requirements of MIL-0-2104 and the requirements for "series 1" type oils as well. Available in all SAE grades.

STANOLUBE HLA is recommended for use in supercharged diesel engines and in other engines that operate under the most adverse conditions. It meets the requirements of MIL-0-2104 and the requirements of "series 2" type oils. Available in SAE 10 and SAE 30 grades.

COMPANY



(Indiana)

Motor Transportation

Continued from Page 156

industry, too. The drivers are good and their safety record is good but, as is well known, they often put too much reliance in physical size and powerful air horns.

Realizing this very curse, one of the biggest western truck operators is quietly going about the task of eliminating all air horns in favor of a good standard signal comparable to passen-

ger car design. To us, it makes a lot of good safety sense.

Maintenance Needs Room

AT NEARLY all our fleet call stops we headed straight for that common melting pot of all fleet operations—whether they be trucks or buses, common or private carriers, local or long-distance operations—the maintenance shops. As anyone could easily guess, some were good, some were bad, some were really extraordinary. A selected few in the top category have been, or

will be, described in *COMMERCIAL CAR JOURNAL*. But there were trends which can be grouped in a general article. Here are just a few.

We noticed a definite trend for more space—not so much in actual shop facilities as for maneuvering and parking space in the yard. This was particularly noticeable among the bus properties who, by and large, are sacrificing the convenience of close-in terminal facilities for more room on the edge of town. All too often, companies have built magnificent new shop facilities only to find that full utilization is hampered, if not prohibited, by lack of maneuvering space and a spot to park vehicles destined for the shop close to the area where it will be wanted.

Cleanliness Pays Off

IN COMPARISON with previous trips, we had made in eastern and southern regions, we noticed a definite improvement in shop cleanliness. Again the bus folks lead the way. One busman even was worried about it. Our West Coast editor made the remark that his shop could be described as almost "hospital clean," to which the "super" replied, "Don't ever say that! A lot of people think we spend too much money on cleanliness!" Then he went on to say it wasn't true, that, for the huge facilities of a fleet of nearly 1000 buses, there were only three clean-up men. The secret lay in the fact that each mechanic was responsible for his own particular area and that simple, good housekeeping technique, plus about 10 minutes a day, did the trick. In our book, at least reasonable cleanliness, coupled with good housekeeping and a proper spot for each tool and each piece of equipment makes good sense. We are glad to report that many operations we visited agree.

(TURN TO PAGE 162 PLEASE)

THE BIEDERMAN TRUCK



*An All-Star Truck
Constructed of All-Star Units
Doing an All-Star Job Since 1920*

DEALERS: Compare the Biederman National Standard Model with any truck on the market and you will agree that it is an All-Star team in itself.

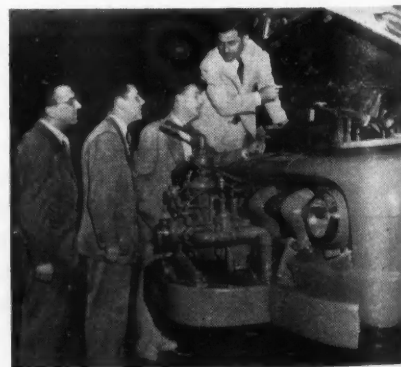
Only the most sturdily constructed units of America's leading manufacturers are built into it.

Biederman Trucks win by performance. Inquiries regarding dealership solicited.

WRITE, WIRE or PHONE

BIEDERMAN MOTORS CORPORATION
CINCINNATI 14, OHIO

Dry-Chemical Fire Truck



Said to be the world's largest dry chemical fire truck, this unit is being inspected by officials of the Ansul Chemical Co. where it was equipped, and officials of the Moore-McCormack Lines who will ship the unit to Uruguay

TOM . . . THE TRUCKER, SAYS . . .

"It's safety I want



...give me a
Hein-Werner!"

Put yourself in the position of each of the men who drive your trucks, and you, too, will agree each truck should have a SAFE jack . . . A new Hein-Werner Hydraulic Jack.

You can't beat a sturdy Hein-Werner for safe, dependable operation. It lifts maximum loads smoothly and easily . . . Factory-tested at 1½ times rated capacity . . . Jack cannot lower accidentally as handle must be removed from pump to open release valve . . .

Other features include center-balanced malleable handle socket, and famous "Heinite" pump piston — proven by actual tests to withstand 10 times the wear of conventional cups or packings.

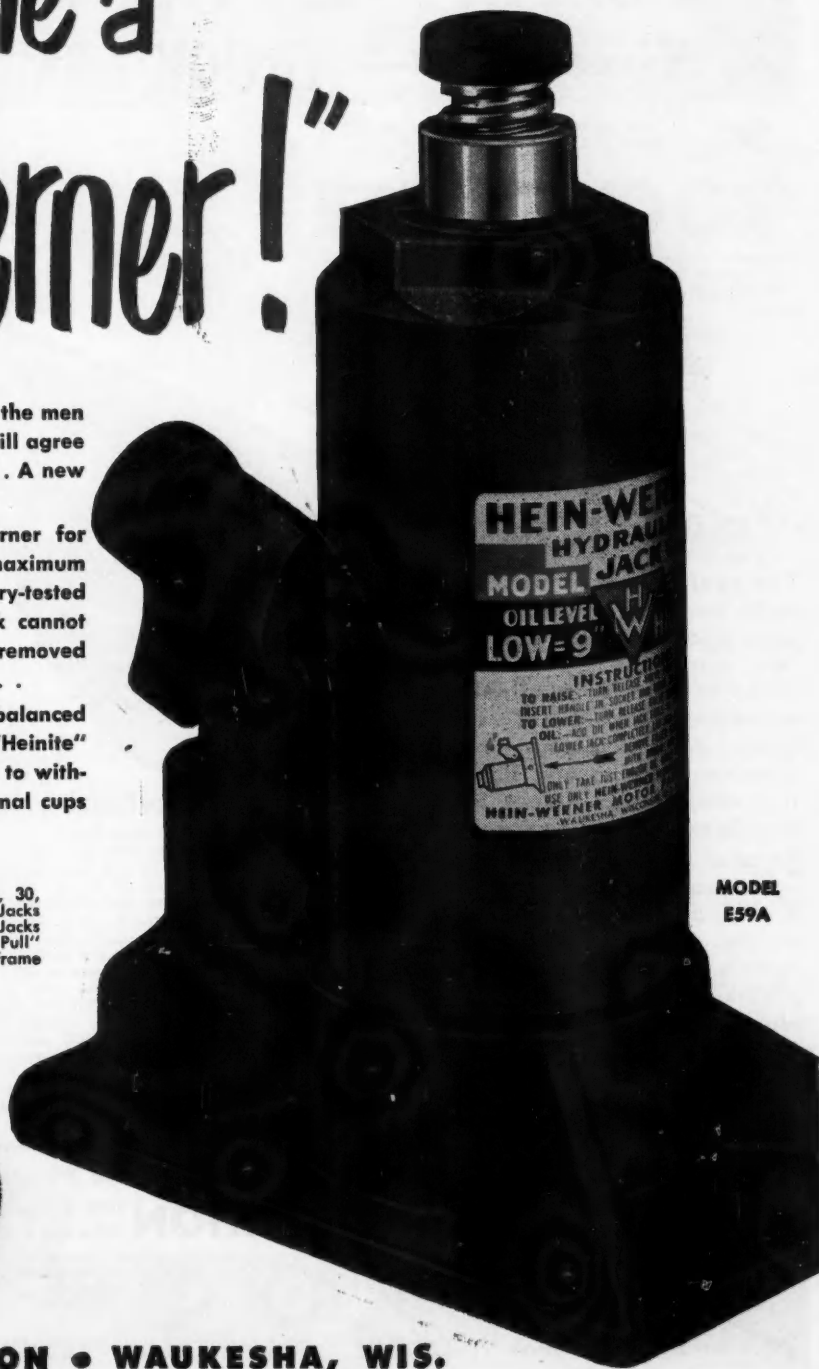
Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity — Bumper-Lift Jacks for passenger cars, Swift-Lift and Service Jacks for shop use, and Hein-Werner "Push and Pull" Hydraulic Jacks for body, fender and frame work.

Ask your jobber or write us for details



HEIN-WERNER CORPORATION • WAUKESHA, WIS.

COMMERCIAL CAR JOURNAL, August, 1951



MODEL
E59A

Motor Transportation

Continued from page 160

Where diesel operations are concerned, there is almost universally one spot that is always clean. When we didn't see it right off, we asked for it; sometimes found it tucked away in the parts department on the second floor. That's the diesel injector room, where cleanliness is a must. Many of them are painted pure white and equipped with ventilating fans. Some are sealed around doors and windows, and even

slightly pressurized to keep dust out.

Another by-product of cleanliness is the growing trend toward the use of steam. Steam cleaners are fast becoming universal equipment for the well-run fleet, and are used in two distinct operations.

The first is vehicle cleaning. Use ranges all the way from an every-trip program, such as is practiced by Pacific Intermountain Express in Denver, to a hit or miss basis when the grime gets so bad they can't find the lube fittings. But the most general practice is to

steam clean before each major inspection, usually somewhere around the 5000-mile mark.

The second use is parts cleaning. This, in turn, brings up a whole new maintenance procedure seldom found 10 years ago. It involves the disassembly of all major components—engines, transmissions, rear ends, etc.—in one area (usually the steam and vat-equipped wash-rack) and re-assembly or build-up in a completely separate area where grease and oil is wiped, not scraped, from the floor.

We found the following to be an almost universal pattern among the better operations. As engines, for instance, are disassembled on portable stands in the washrack area, they are first steam-cleaned overall. Then, as parts are removed, large ones are individually cleaned and small ones placed in wire baskets and "dunked" in the vat. Finally, the major assemblies—crankshafts, heads and blocks—are individually immersed in the cleaning tanks.

After cleaning, there frequently is a special rack standing by on which all but the major assemblies can be laid out for inspection, replacement and transmittal to the build-up area. Los Angeles Transit, among others, has a special intermediate department for the inspection and replacement phases. Here, every part, down to the smallest stud, is either passed or rejected and replaced. So, when the stand is finally wheeled over to the "build up" man, where it joins the major assemblies which have come through their own conditioning department, assembly becomes as much a production job as it was in the original factory.

Dynamometers Popular

WHILE engine dynamometers, or at least some sort of break-in stand, have long been a popular piece of major shop equipment, we noted a growing trend toward the addition of the chassis dynamometer among the larger fleets. It's the one piece of equipment that most fleets have that they would hate most to do without. They find it is revolutionizing their tune-up departments, both through reduction in time and increase in efficiency. The one exception seems to be the case of the torque converter operator (popular among buses) who does not find the gadget practical. Where tandem axle drives are used, a set of idler rollers is all that is needed to convert the standard floor model.

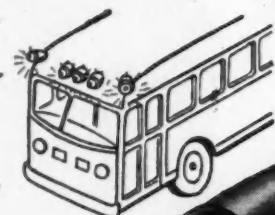
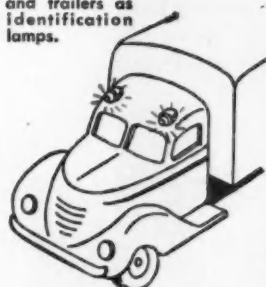
Pits vs. Lifts

WE ALSO kept an eye out for the controversial subject of pits vs. lifts, vs. nothing at all. We found most (TURN TO PAGE 164, PLEASE)

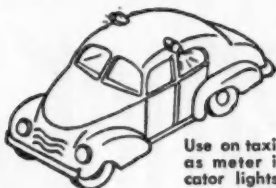
IT'S SAFETY ALL THE WAY with *Speaker* TRUCK LAMPS

★ JETLINED ROCKET-LITE

Mount on trucks and trailers as identification lamps.



Attach to busses as identification lamps.



Use on taxicabs as meter indicator lights.



The really modern marker light, now chalking up new sales records. New-as-tomorrow appearance matches trend toward streamlined styling of commercial vehicles. Advanced design of base conforms to any sloping vehicle top. Meet SAE-ICC specifications; state approved.

Speaker Jetlined Rocket Lites mount individually, in pairs, or clusters of 3 or 5, according to state requirements. Mount on cab or trailer corners for two-way illumination. High-lustre finish with black trim, black enamel finish with silver trim. 2½" beehive glass lens cannot pit or fade. Rubber mounting gasket prevents water seepage . . . cushions vibration.

Speaker Truck Directional Signals



Heavy duty lifetime switch. Built-in indicator light. Installs on any diameter steering column — 1½" to 2½". For new and old trucks.

Sturdy steel lamps — bracket or flush mounting. Red or amber fade-proof glass lenses will not pit by sand blasting. Brilliantly visible day and night. Meet all SAE-ICC specifications. State approved. Black enameled. Switch and lamps in kits, or individually; 6 or 12 volt.

Speaker Truck Lamps are distributed through Leading Automotive Wholesalers

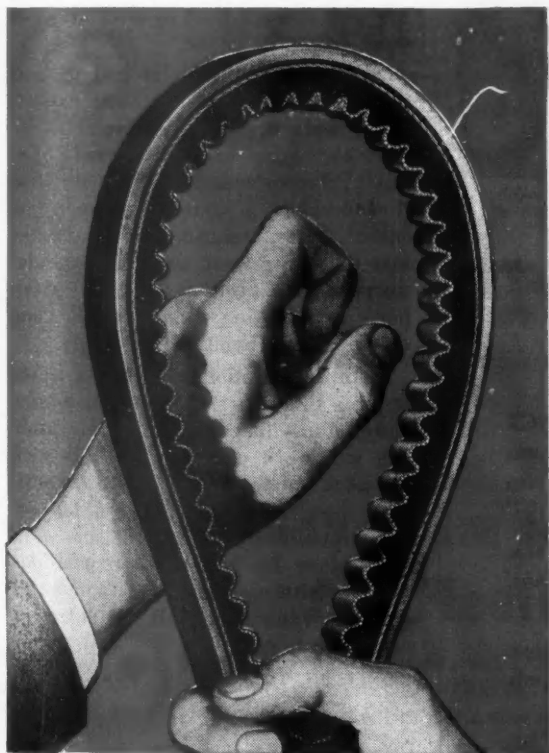
J. W. SPEAKER CORPORATION 3059 N. Weil Street, Milwaukee, Wis.



To take a bite out of belt costs



Put "teeth" in your drives with the DAYTON COG-BELT*



Only the patented and exclusive Dayton Cog-Belt, of all the fan belts made, is scientifically built to bend like your finger as it goes round fan, generator, or compressor pulleys. Space between the individual cogs takes up compression strain and distortion, gives a cooler, more flexible, longer-lived drive. Here's the proof . . .

An 800-cab taxi fleet in a big Eastern city reports cutting fan belt costs 66% with Dayton Cogs! A large transit fleet reports an average of 15,000 more miles per fan belt! A school bus fleet got 21,964 *extra* service miles on its run!

How long can your fleet *afford* to pass up automotive belt savings like these? To take your first big bite out of belt costs, call the Dayton Jobber. Ask him about his complete fleet program of money-saving, cooling system maintenance, built round the Dayton Cog-Belt. Or write:

DAYTON RUBBER CO.
DAYTON 1, OHIO



Cog-Belts and Radiator Hose by

Dayton Rubber

WORLD'S LARGEST MANUFACTURER OF V-BELTS

*T.M.

Motor Transportation

Continued from Page 162

operators of small trucks definitely in favor of the lift. We found a good many operators of really big trucks doing very nicely with neither. Among the properties, the pattern generally is toward pits for routine servicing lifts for all major inspections.

PM Techniques

THE handling preventive maintenance inspections is also controversial. P.I.E. and Consolidated Freightways lead the way in production-line techniques, with long lines of tractors queued-up from one to four abreast on varying forms of slow and fast lanes, almost invariably with lubricating pits at the end. Garrett Freight Lines, in Pocatello, leads the opposition with its new \$800,000 terminal facility lined up for "on-the-spot," one-position servicing regardless of the needs. Instead of mov-

ing the vehicles down the line, equipment is moved to the vehicle, wherever it may be.

PM inspections themselves, however, are no longer a controversy. In all of our more than 50 stops, we did not find a single fleet that did not have regularly appointed periods for various degrees of inspections. The old idea of running them till they quit had hung on for years, in spite of much evidence to the contrary, but at long last, it appears to be out.

The Supply Problem

ONE OF the biggest difficulties in the 1951 version of controls from Washington is the uncertainty of the supply picture. We can report that, as of the first of June, there were no really critical supply problems among any of the fleets we visited. Tires, particularly for new trailers had been the tightest item. But even this situation was not too acute on the fleet level; even the trailer builders we talked to said they were getting enough then to get by. Tire stocks among the fleets themselves were low—usually a 30-day inventory, as compared with as much as six months' a year ago. But the vehicles were rolling with enough tires to meet all minimum demands.

Similarly, new vehicles and replacement parts followed the same pattern. Many were ordering new vehicles for both expansion and replacement use; some rather obviously to beat the gun, if and when a shut-off or reduction came. Axles, tightest item yet at the manufacturing level, were no particular worry of the fleetman; though a few parts were getting uncomfortably close to the critical point.

With the situation still hazy in Korea at press time, it's still pretty much anybody's guess just how the supply problem will work out. But we will stick our neck out to say that, with the attitude thus far displayed by DTA administrator Knudson and the fine work being done by interested associations and committees, most trucks and buses will keep running on full schedules for some time to come.

(TURN TO PAGE 166 PLEASE)



NO TOOL

saves more hours

There's no handier time-saver for any shop than a CP-750 AIR IMPACT WRENCH—Capacity to $\frac{5}{8}$ " bolt size. Packs ample power, operates smoothly with never a kick. Yet its average air requirement of $4\frac{1}{2}$ cfm is only about that of a grease gun.

Runs or removes nuts, bolts and screws on Cylinder Heads, Oil Pans, Main Bearings, Front End Parts, Bumpers, Clutches, Transmissions, Spring U-Bolts, Wheels and Doors.

Other sizes: The CP-730, to $\frac{1}{2}$ " bolt size; the CP-770, to 1" bolt size. These three wrenches have controllable power; detachable angle heads for awkward-spot jobs.

The CP-365 Air Impact Wrench, capacity to $1\frac{1}{4}$ " bolt size, is available in straight or angle head models.

Write
for full
information



**CHICAGO PNEUMATIC
TOOL COMPANY**

General Offices: 8 East 44th Street, New York 17, N. Y.

AUTOMOTIVE SERVICE EQUIPMENT • FENDER IRONS • ELECTRIC TOOLS
AIR IMPACT WRENCHES • AIR COMPRESSORS • PNEU-DRAULIC PUMPS

Transit Celebration Planned

Various forms of celebration will be the order of the day on Sept. 24, when the transit industry celebrates 100 years of expansion. The celebration will be widespread, in various cities throughout the country. It will include newspaper feature coverage, radio programs, television shows, and displays in company publications.

The Best Costs Less in the Long Run

One look at Fram's mail proves why

**"FRAM FILTERS...
best engine savers
I ever used!"**

Fram Corporation
Providence 16, Rhode Island

Gentlemen:

I am maintenance supervisor for a large wholesale grocery and feed concern. We have thirty-six heavy-duty, over-the-road trucks which have the toughest territory in the south to contend with.

Several months ago I equipped two of my trucks with Fram Complete Engine Protection Filters and I want to state that I believe this protection will be the best engine saver I have ever used. Since installing the Complete Engine Protection Filters on the first two trucks, I have purchased two more units, and plan to equip the fleet completely as soon as possible.

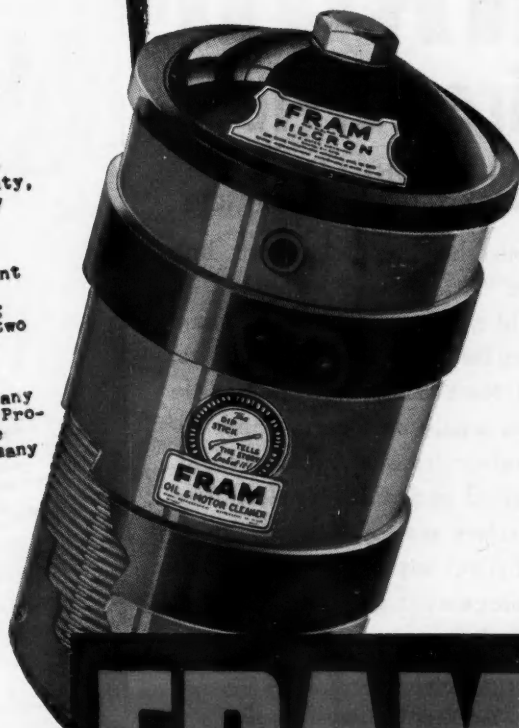
Yes, I've used Fram oil filter cartridges for many years, and now that I'm able to use Complete Engine Protection Filters by Fram, especially the new Positive Crankcase Ventilator, I'm looking forward to many, many more trouble free miles with Fram.

Sincerely yours,

[Signature]

Maintenance Supervisor

This letter, typical of the many in Fram's files, shows how Fram saves time, labor, money for fleet operators everywhere . . . proves that the best cost less in the long run!



Here's why Fram is best for ALL Fleets

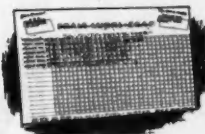
Famous Fram Oil & Motor Cleaner, with the Filcron Cartridge, removes particles down to one micron (.000039") . . . protects engines better, longer! Cartridges to fit most every make oil filter.

Only Fram offers you Complete Engine Protection! Car, truck and bus engines equipped with Fram Oil & Motor Cleaners, Carburetor Air Filters, Fuel Filters and Positive Crankcase Ventilators are completely protected against engine-killing abrasives and internally-formed contaminants.

Fram Saves Cooling Systems too! New Fram Radiator & Water Cleaner softens, filters and inhibits coolants . . . removes rust, scale and corrosion . . . reduces danger of overheating.

Fram is Unconditionally Guaranteed! Test Fram without risk . . . money back if not satisfied!

FRAM
OIL • AIR • FUEL • WATER
FILTERS



**Send for FREE
Fram Lubri-Graf!**

Provides instant visual check on condition of oil and engine. Indicates cartridge changes only when needed. Saves money. Write **FRAM CORPORATION**, Providence 16, R. I. In Canada: J. C. Adams Co., Ltd., Toronto, Ontario.

Motor Transportation

Continued from Page 164

A press-time flash bears out this optimism. On July 13 to 15 The Willet Co. in Chicago staged a three-day vehicle sale. Said its advertisement appearing in the *Chicago Tribune*: "Motor Truck Manufacturers surprised us with a large shipment of new trucks. Therefore we are taking out of service NOW trucks we ordinarily would use all winter and offer them to you."

Manpower Still OK

WE ALSO kept a special look-out for signs of manpower shortages. Despite our own published misgivings on the subject, there were no signs as yet of a shortage approaching the critical stage. Operators had their collective fingers crossed but, so far, neither the military nor defense activities had seriously hampered or effected the getting and keeping of good drivers and mechanics.

There is no indication, however, whether this condition will continue

after defense production reaches full-scale later in the year.

A Lesson from the Indians

FEW transcontinental motorists return without some comment about the Indians. Ours as a final paragraph, has a transportation pitch. We took a few hours off to visit Bandelier National Monument near Santa Fe, New Mexico. There, we saw where the Indians, 1200 years ago, had dug into the cliffs to make their homes. As the guide recounted highlights of the exhibit, he noted that the most frequently asked question from tourist was this, "How come the Indians settled (in 700 A.D.) so far from the railroad?"

That was enough for us. For just 20 air-line miles away is the modern atomic city of Los Alamos. It's located smack on top of a mountain about 40 tortuous road miles from Santa Fe and the nearest railroad track. True, the railroad of the same name did a Herculean task of rolling nearly 4000 carloads of material to its railhead. But every board for every home and every piece of equipment for the huge powerplant, even every pound of coal to fire it, rolled those last inaccessible miles on the highway. And, even today, the vast needs of this modern industrial city roll by truck. Navajo carries the bulk; Bob Valdez and his little Western Freight Lines at Santa Fe hauls the local transfers, and several others share in the load.

All in all, Los Alamos is a top drawer example of those more than 25,000 U.S. communities that have no rail facilities at all; depend entirely on highway transportation for their very existence. On a trip such as ours, one finds out very quickly, how easy it is to find yourself many miles from the railroad.

END

Please Resume Reading Page 64

McLean's New Additions

One of the new 133 hp GMC diesels which will replace the 200 hp units of the fleet of McLean Trucking Co. Mal-



com P. McLean, second from left, is shown with a group of his drivers. He estimates lower operating costs with a 15 per cent increase in payload per unit through decrease in gvw

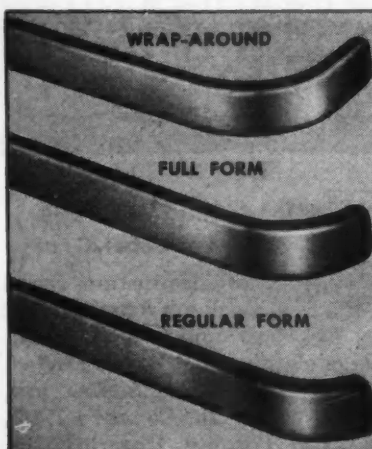
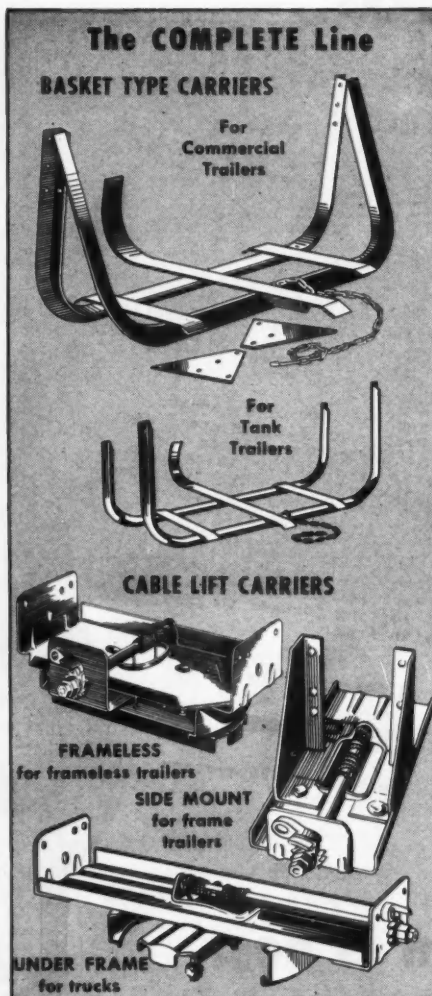
NASH

tire carriers

THE RIGHT TYPE FOR EVERY TRUCK AND TRAILER

From the complete Nash line you can choose exactly the right types and sizes of tire carriers for your trucks and trailers. All Nash Tire Carriers handle tires easily and carry them securely in transit. Light in weight, rugged and durable, Nash Tire Carriers are top values both as original equipment and for replacement installation. Easy to install.

See Your Equipment Supplier
or Write Direct For
The Nash Tire Carrier Bulletin



NASH BODY-GARD BUMPERS

Custom built for trucks, truck bodies and buses from high tensile steel. Choose from three styles and five face widths. Write for descriptive folder now.

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Payne Street and Dewey Avenue, Evanston, Illinois

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NO.1 DIESEL!

Let these haulers whose success depends upon low-cost operation tell you why they've made GMC the leader in Diesel trucks!

"We are now hauling twice the pay load at one half the operating costs of previous gas-unit."

W. J. Jones
Millwork Manufacturer
Phoenix, Arizona

"Outperforms similar units on hills and grades, and reduces running time 33% as compared to gasoline operation."

Howard M. Rameck
Produce Hauling
Oklahoma City, Okla.

"TIME ON ROUND TRIP BETWEEN CHILLICOTHE AND SPRINGFIELD, ILLINOIS, REDUCED BY 3 HOURS. DRIVER SAYS GEAR SHIFTING HAS BEEN REDUCED 35%."

James O. Rameck
HEAVY MACHINERY HAULING
CHILLICOTHE, MO.

"Easier to start with full load and am able to maintain a steady road speed with a great saving in road time."

Harold G. Stephens
Cement Hauling
Watsonville, California

"Drivers can take average hills without having to get out of fifth gear. This makes the driver happy."

Earl G. Jones
Petroleum Transport
Bossier City, Louisiana

GMC Diesels are available in a wide range of four- and six-cylinder trucks, tractors and six-wheelers for any job on or off the road—from 24,000 pounds GVW up. See your GMC dealer before buying your next truck.

*GMC Truck & Coach Division
of General Motors*

GMC

GASOLINE & DIESEL TRUCKS



1/2 TO 20 TONS



Your key to
greater hauling profits

NEW FASTER DIESEL SERVICE, ANYWHERE IN THE U.S.
GMC's exclusive road service network protects Diesel drivers any place, any time! Call Western Union by number. Ask for Operator "25." She'll put you in touch with the nearest GMC approved Diesel service points.

Seasonal Handicaps

Continued from Page 55

After the tank has been filled, and other service finished, the attendant goes into the service station. The book in which he is to make the fuel-oil-water entry, lies on a shelf right in front of pump dials. The dials on the gas and diesel pumps have been turned so they are visible through a glass window in the station. A sliding shield can be placed over the face of any pump

indicating at a glance that it is empty.

Over the shelf and the record books is another battery of heat lamps which keep the books warm and, also, warm the attendant's hands as he writes. This makes it comfortable to make the required entry when the weather is cold.

The heat lamps used in the service station are safe, as far as fire and explosion is concerned. They are approved by fire underwriters for this purpose where other types of heating are prohibited, particularly any kind of open heating.



A SURE SIGN OF *Winter!*

**Order LUMINATOR Radiant Floor CARGO HEATERS Now
To Protect your Cargo from Freeze-Ups**

Order your heaters for next winter's cargo protection right now. Freezing weather can mean not only dollar loss but loss of reputation. LUMINATOR Radiant Floor CARGO HEATERS maintain an even temperature from bottom to top of load. Mounted outside the vehicle, they comply with the I.C.C.'s proposed order prohibiting the use of heaters that exhaust fumes inside the vehicle.

Doesn't take valuable cargo space.

Whether your vehicles have wood or metal floors, LUMINATOR Radiant Floor CARGO HEATERS are engineered to meet specific requirements of any type of trailer or truck. Now is the time to order cargo heaters . . . so that you are sure of delivery in time to prevent cargo loads from freeze-ups. Write for descriptive bulletin No. 550.

LUMINATOR Radiant floor CARGO HEATER



ENGINEERS • DESIGNERS • MANUFACTURERS • TRANSPORTATION EQUIPMENT

LUMINATOR inc.

120 NORTH PEORIA STREET, CHICAGO 80, ILLINOIS

Offices: 50 Church Street, New York 7, New York • 15326 Wyandotte Street, Van Nuys, Calif.

MAKES EVERY LOAD A PAY LOAD

Soft Water for Cooling

SOFT water is used to fill the radiators. The main valve to the outside water hose is in a corner of the service station. In extreme cold weather the water is shut off inside to keep it from freezing in the hose on the outside.

The water in the hose outside would freeze anyway if it were not drained back. This is provided for in an automatic and efficient way. When the attendant shuts off the water inside, the valve used is so constructed that the house outside drains back. The drainage goes down under the service station floor in a sand bed, so that there is no water on the floor of the service station.

The East St. Louis City Lines have 82 buses in their system. At this writing, the fleet consists of 2 Areocoaches, 38 ACF and 40 GM's, both gas and diesel mixed.

Lane Holds 50 Buses

BETWEEN 5:30 and 6 p.m., 11 buses come in, and in the next half hour 14 more come in. Others come in at 30-minute intervals.

The entrance lane from the street to the service station will hold some 50 buses. If a bus has the service station occupied, the driver leaves his bus in the lane. Later, the service station attendant drives them up to the pumps in the order in which they were parked. This means that he always takes the bus closest to him—another step-saving and stream-lined work feature.

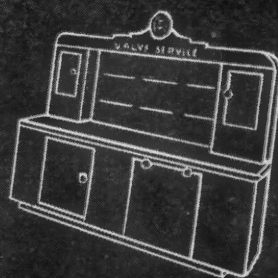
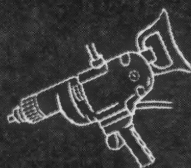
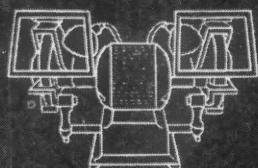
Each bus is equipped with a work order card, which the regular driver signs and leaves in the bus. If the bus is O.K. he signs it O.K. If he desires to report a defect, he indicates the defect and signs that.

A square in the upper left-hand corner contains a blank for the month and figures from one to 31. When a card is put in the bus, the month is written in the blank and the date is punched in the square. Unless turned in because of repair needs, cards remain in the bus for about 10 days, when they are removed and replaced with new ones. The point is that the card stays with the bus and not with the driver. In that way, it becomes signed in some cases by as many as three different drivers who drive the bus during a 24-hour period.

In the case of a repair job, the job is entered on the card when it is completed. It shows the work done, who did it, and the time consumed; which provides a checkback if needed. The card then subsequently becomes part of the permanent records of the shop.

END

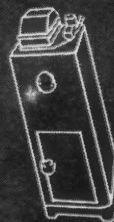
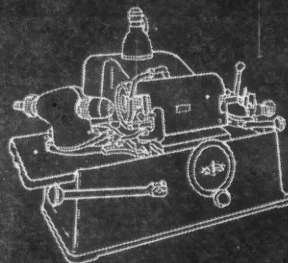
Please Resume Reading Page 56



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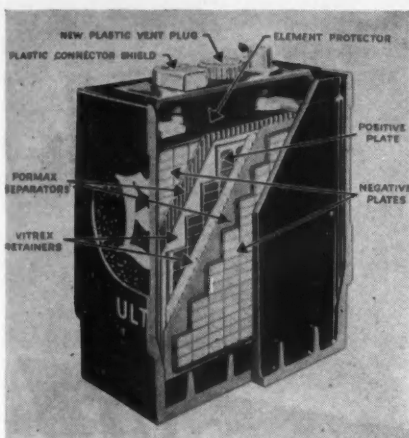
STANDARD THE

ALBERTSON & CO., INC.



WORLD OVER

SIOUX CITY, IOWA, U. S. A.



Cross section view shown at left points to improvements and changes in the new Exide battery now available

Higher Capacity Battery Announced by Exide

The Electric Storage Battery Co., Philadelphia, has developed a new type automotive battery promising longer life and improved efficiency. Priced slightly higher than the present line the new battery uses a corrosion-resisting grid metal made of lead, silver and other components. A new type high capacity active material, Pormax plastic separators and the low specific gravity electrolyte provide for high capacity qualities.

The Silvium alloy grid was created to minimize the problem of grid corrosion resulting from overcharging. A new grid material which is a paste consisting of lead compounds and pressed into each grid is said to react more effectively with the electrolyte. Specific gravity reading is 1.260. The Pormax plastic separators are said to be several times more acid resistant than conventional wood separators, are highly porous and non-brittle.

Other features of the battery listed by the company are plastic connector shields, element protectors, plastic vent plugs of improved design, a vibration-proof sealing compound and a shock-resistant container. The bright crimson connector shields cover the intercell connectors to prevent short circuits caused by tools or other metal objects carelessly placed on top of the battery.



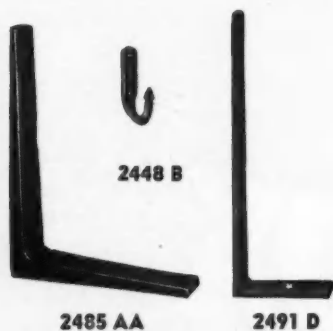
Rectangular slots cut in the shields provide access for voltage checks with instruments commonly used for this purpose.

Element protectors are perforated sheets, which cover the plates of each cell element to prevent possible damage when a hydrometer syringe is inserted into the cells.

New type double baffle vent plugs are claimed to prevent loss of battery electrolyte under all driving conditions.

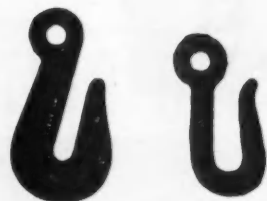
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For the heaviest trucks.
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Suitable for 1/4" to 5/8" chain.
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SPEED-WET METALITE® Fibre Discs are tops for sharp, even cutting at record-breaking speed. They're **DURABONDED®** and the rugged grit is doubly anchored with a heat-proof resin bond for greater endurance and longer cutting life. You can't beat **SPEED-WET DURITE®** Waterproof Paper for wet sanding. It does the job fast and produces the finest finish. **Openkote ADALOX®** Finishing Paper is ideal for feather-edging and dry sanding.

Fast becoming the favorite with Body Shops everywhere. Grips tight on all surfaces, flat or curved. Strips off cleanly and easily. Holds up under drying heat. Try it on your next job and see the difference.

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PRESSURE-SENSITIVE TAPES • ADHESIVES AND SEALERS

Parts Inspection Pays

Continued from Page 74

axle swelling up inside the load tube and freezing. The cost of the broken axle averages \$300 in parts replacement, loss of operating revenue, cost of bringing the bus off the road and man hours involved.

All replacement crankshafts are Magnafluxed before they are in-

stalled. The cost of a broken crankshaft can range all the way from \$300 for a new shaft to \$2,500 for a new engine block and other engine parts, according to Rockland. This company formerly experienced four or five broken crankshafts per year. This year, however, two breakdowns

occurred, but the defects had been located and because of their locations did not cause serious damage.

Engine blocks are tested before being replaced. Cracks are looked for in the main bearing webs, under the main bearing seats. A crack here is not likely to result in serious damage, but it is important because of the possible oil leakage. Discarding the block when bad defects are found saves extra maintenance work and the high cost of repairing such a break.

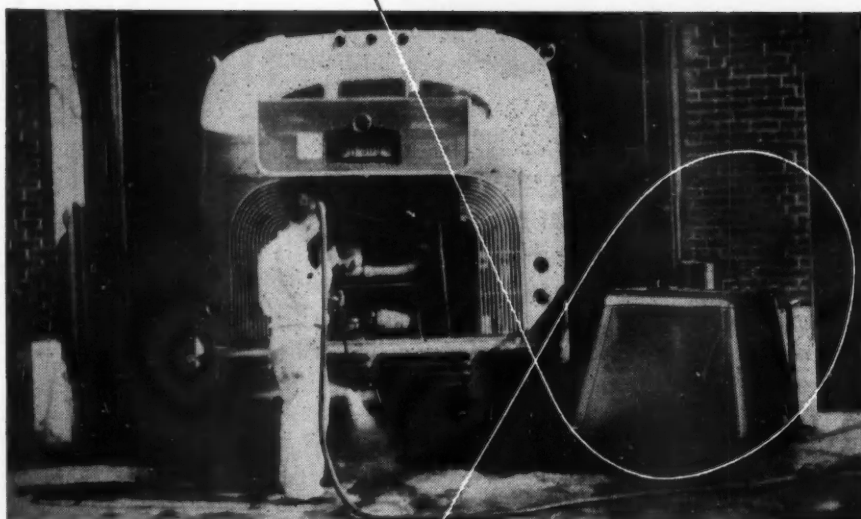
This inspection pays off in the case of differential master and pinion gear checks because if a tooth breaks and is caught in the gears, it will ruin the entire assembly. The break usually occurs at the seat of the tooth. A pinion gear break, ruining a set of gears, will cost the company at least \$200.

In truck fleets also this system of inspection is paying off. The prevention of road failures and accidents resulting from mechanical defects shows up in the records turned in by Consolidated Freightways, of Portland, Oregon. The company Magnafluxes pistons, crankshafts, connecting rods, axle shafts, spindles and transmissions periodically and reports few road failures as a result of these parts. Consolidated, Lee and Eastes, Pacific Highway Transport, North Coast Transportation Co., Seattle Transit System and many other leading fleets in the Northwest employ the Industrial X-Ray Engineers of Seattle, Portland and San Francisco to do their magnetic particle inspection work. Reports from the latter indicate that his inspection has cut accidents and road failures approximately 15 per cent. X-Ray Engineers state that out of each 100 used parts tested, between 10 and 15 are found defective. And this figure in itself would indicate that this is the percentage overlooked by competent inspectors in regular eye inspection methods.

Fleets using this system keep accurate records of the inspections in three categories—one a record of parts having Magnaflux indications which have been returned to service; two a record of components in a unit of specific brand or manufacturer; three, a record of all parts inspected in the vehicle. Records list the name of parts, date inspected, method of inspection, with notes regarding de-

(TURN TO PAGE 178, PLEASE)

- reduce shop time . . .
- cut maintenance costs . . .
- add to your profits . . .



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Hypressure **Jenny** steam cleaner

Figures from hundreds of fleet maintenance shops show that when equipment is cleaned with Hypressure Jenny before repairs or servicing, mechanics can do their job in just about half the time. With Hypressure Jenny you'll profit not only in labor saved in removing grease and dirt from motors, chassis, parts, etc., but also in road time gained, for you'll get

your vehicles back on the road . . . and earning . . . nearly twice as fast! You can increase your profits still further by using Jenny to clean tools, lifts, pits, driveways, windows, etc., 10 times faster than by hand cleaning methods.

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Proof! All mechanics say the pressed-in seat looks like this before they start to grind it.

HOW MUCH PRESS-FIT Should Be Used in Replacing Pressed-in Valve Seats?

"NO ONE KNOWS"...

says "Pete" Peterson: Throughout the country maintenance men and engineers *disagree* on proper press-fit tolerances for any specific job. The amount of press-fit to use cannot be determined accurately...

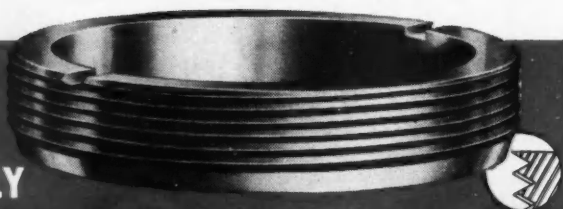
BECAUSE...

(1) Engine operating conditions vary. (2) Liming conditions in water jackets of engines vary. (3) Different wall thicknesses around the seat cause varying amounts of distortion and expansion in the cylinder head or block. (4) Difference from new engine clearances cause different engine operating temperatures.

Made of tough chrome-nickel-iron, individually cast under pressure. Unlike pressed-in seats, P-B Screw-In Valve Seats retain their original dimensions, won't buckle and come loose, can't tilt and cause hot spots and valve burning, and allows for perfect seating of valve on every stroke.

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THE

P-B SCREW-IN VALVE SEAT
WITH EXPANSION CLEARANCE



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AMAZING PERFORMANCE

SAVES COSTLY BREAKDOWNS—Eliminates 75% of valve burning, sticking and breakage. Also eliminates 75% of valve port cracks due to radial pressure of expanding pressed-in seats—or valve port cracks in many heads where no seats are used.

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NEW-ENGINE VALVE MILEAGE—And the seat remains tight in the counterbore.

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Inspection Pays

Continued from Page 176

fects found. In some cases parts with defects can be reused for a time with fatigue cracks. However, before replacing such parts it is advisable to take Scotch Tape transfers of the Magnaflux indication by placing tape over the indication and then sticking it on a permanent record card. Thus the growth of a fatigue crack can be studied between overhaul periods and actual case histories established.

Another advantage of the records is that of cooperation with the manufacturers. In many cases it has resulted in closer inspections and tolerances of the makers, so that continuous trouble with certain parts can be remedied at the source. The maker may change the design, strengthen the weak structure or improve the metal and save recurrences of such failures.

Records establish definitely the fatigue life of the component parts under the particular service conditions in which the vehicle is operated. With this accurate information it is then possible to set up a preventive maintenance inspection schedule which will eliminate unexpected failure. Particularly in these days of expected parts shortages, and certainly with the high price of labor, it should be a decided advantage to study PM procedures to determine whether over or under maintenance is being conducted. A part saved represents not only the cost of the part, but cost of other parts destroyed by failure and all the time required to dismantle, reassemble, check and adjust, as well as any lost time due to layup of the vehicle in the shop, when revenue is not coming in.

END

Please Resume Reading Page 76

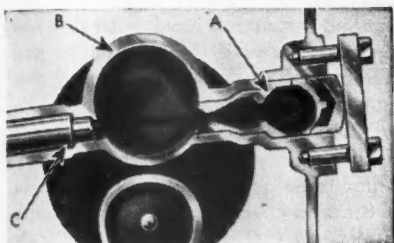
Airborne Grader



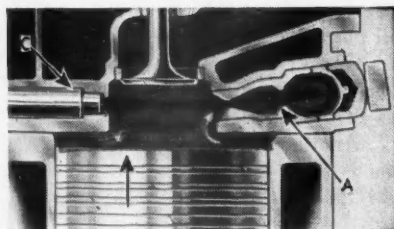
An innovation in light weight construction equipment has been developed by the Navy for use in advanced areas. The unit shown here is an Austin-Western Model CB88 built to Navy specifications. It has a GM 3-cyl diesel engine with a 6-wheel drive and steer. It weighs 17,000 lb without the dozer blade, or 22,000 completely rigged



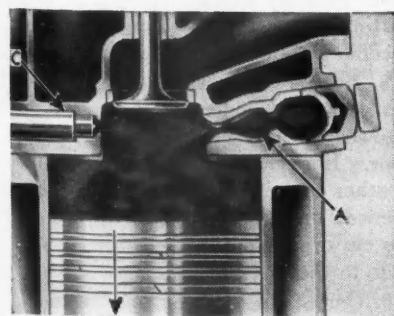
Here's the
"Inside Story" of
CONTINENTAL
CUSHIONED POWER



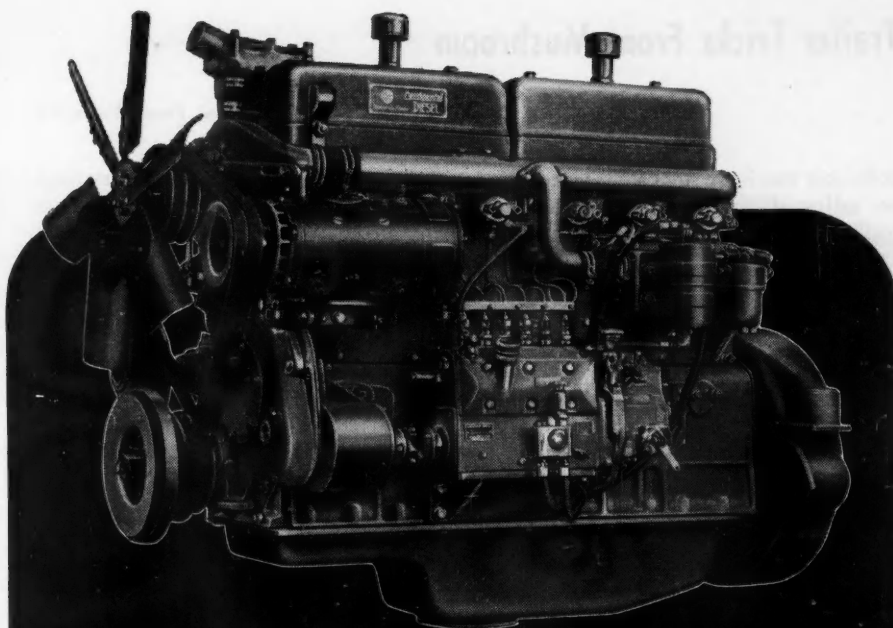
Top view of combustion chamber, showing Dyna-Cell (A), turbulence chamber (B) and nozzle (C). A definite portion of fuel charge from nozzle enters Dyna-Cell.



Fuel charge is self-ignited by pressure just before piston reaches top of compression stroke. But pressure developed by the fuel within the Dyna-Cell is absorbed momentarily by the latter



. . . to be released through metered opening during the piston's downstroke. Thus, peak pressures are converted into useful "follow-through" power.



Model RD-6572—Transportation Diesel, 6-cylinder, $4\frac{3}{4}$ " bore x $5\frac{3}{8}$ " stroke. 572 cubic inch displacement. Develops 150 h.p. at 2200 r.p.m.

RED SEAL CUSHIONED POWER DIESELS COST LESS TO RUN AND TO MAINTAIN

Continental Cushioned Power Combustion Chamber with Dyna-Cell (see diagrams at left) not only gets ALL the power from the fuel, but smooths and prolongs the power impulse, preventing the development of destructive peak pressures usual in engines of Diesel type. This avoidance of extreme pressures lengthens engine life. It speeds and simplifies service, by permitting wide interchangeability of parts between Red Seal Diesel and gasoline models. Moreover, the weight-to-horsepower ratio is unusually favorable, a consideration of great importance in many applications. Choose Continental Cushioned Power Diesels for lower costs . . . longer useful life.

REMEMBER, GOOD EQUIPMENT IS BETTER WITH CONTINENTAL RED SEAL POWER

Continental Motors Corporation

MUSKEGON, MICHIGAN

Trailer Tricks From Mushroom

Continued from Page 60

ends over the body hooks. Tension can be adjusted as required, while the resiliency of the rubber takes up for any stretching or shrinkage. As a result our tops are always neat, tight and held securely in place.

3. We have also improved the front and rear tie downs by riveting a second series of straps underneath the ends of

the tarp so that they can be attached inside the front and rear headers, thus holding the tarp from moving in either direction. In other words the ends are strapped around the headers so that the tarps never come loose or flap in the wind.

4. On covered vans we attach a rain guard and bumper at the top just above

the rear trailer doors. This is made from a strip of flat steel curved as shown and boxed in at the ends. The piece is welded to the rear header and provides protection from the weather as well as protection against damage in backing up under tree limbs and low roofs.

In addition we build out the trailer floor to a length of 8 in. to provide for convenience in loading and protection against damage at the docks. Many trailers, however, are already coming through with this adaptation.

5. Since we interchange trailers, it is impossible to use a single electrical coupler that will accommodate all trailer hook ups. Eventually we expect some conformity along these lines, but until ATA standards are put into practice, we must provide for electrical circuits to fit any combination. Accordingly we have installed our own connector, but in series with this we have installed a junction block with all wires labeled plainly so that the hauler can attach all lights and be assured that each circuit is complete.

6. Right along with this change comes the improvement in location of the air brake gladhands. We take them off the lower section of the trailer and install them 24 in. above on a bracket attached to the body uprights. The electric coupler is mounted on this plate as well. This keeps lines and wires up away from the tractor frame where they will not become damaged. Four elbows and three sections of piping and the cross plate are all that are required for this modification.

7. Another development that saves time is the canvas envelop designed to hold the bill of lading. This envelop measures 8 x 6 in., and is mounted on the front of the trailer body, where it is easily accessible and always with the cargo. A single snap holds the cover securely and keeps out rain, permitting quick access when the bill is needed. All our trailers use this holder.

8. Inspection stickers are set under glass in a wooden frame which is screwed to the body sills under the floor. Here it is protected from the weather and is never bumped. When needed, the glass is wiped clean and the entire information is readily accessible to the inspector.

9. One of our handiest tips, we think, is our bracket for holding the license plate, the turn signals, the tail lights, stop light and any reflectors required. All these units are mounted on an angle iron frame which is bolted to the under-structure between the trailer frame rails. Thus all units are plainly visible yet protected from damage.

10. We formerly had trouble with fifth wheels loosening up, breaking (TURN TO PAGE 184, PLEASE)

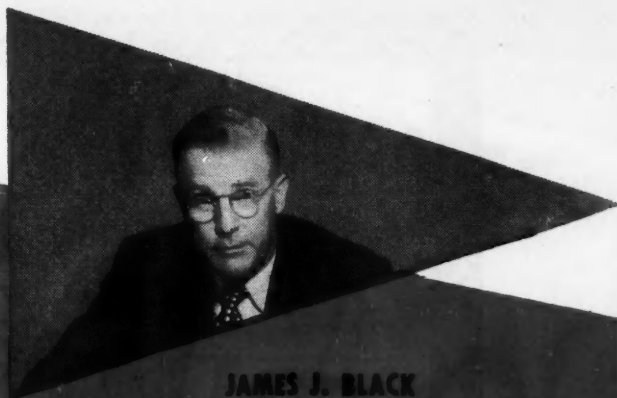


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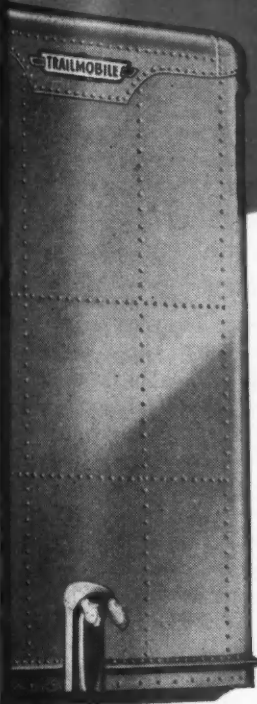
The very best you can use!



"We've built new ton-mile economy into the Model A... with Alcoa Aluminum!"



JAMES J. BLACK
Vice President
The Trailmobile Company



THE NEW MODEL A

"Aluminum is our strongest weapon in helping fleet owners battle today's rising costs," says James J. Black, The Trailmobile Company's vice president of engineering. "Our revolutionary Model AA all-aluminum semitrailer, introduced in 1949, reduced dead weight as much as 3,000 pounds, compared to a steel trailer. Haulers have been well pleased with its low operating cost, rugged strength, simple maintenance, and attractive appearance.

"In our new Model A, we have further improved the safety factor to take care of

unusual hauling problems and at an advantage to the operator in lighter weight."

Besides many other time-proved aluminum features, the Trailmobile Model A has Alclad side panels for maximum resistance to corrosion... thick, extruded rub rails... a new crowned roof with ribbed sheets... extruded aluminum rear door frames, flash-welded at corners for rigidity.

Here again, "Extra payload is the payoff" with Million-Milers of Alcoa Aluminum! Lower maintenance, too, because aluminum needs no paint, cuts time and cost for repairs.



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Military needs limit the aluminum we can supply for civilian uses. But this 36-page "Payload Proof" book will give you valuable help in your long-range planning for more profitable equipment. Mail the coupon today for your free copy!

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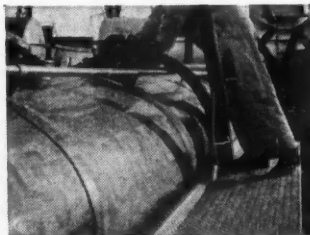
"Bottlesby just can't seem to miss since he lined his glove with slip-resistant 4-WAY Safety Plate."

For greater safety under foot,
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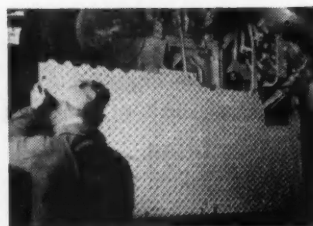
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Send for it!**

STOCKED BY LEADING STEEL WAREHOUSES

Trailer Tricks

Continued from Page 180

away at the tractor frame or becoming misaligned through road damage. Result was an improved mounting that has cut accidents from such failures. As shown, our fifth wheels now are mounted at eight places—with four U-bolts as in the conventional way and with two welded overlays front and rear. Wooden blocks are placed between the mounting base and the tractor frame, and short sections of heavy gage steel are welded to the frame ahead and behind the base on both sides, thus precluding any possibility of shifting of the assembly. Result—a fifth wheel that has to stay where put, and a safer transit.

Experience has been our teacher in all of these modifications. We have been in business some 15 years and have made sure that all changes are better than the original design before adapting them to our fleet. Safety, improved operation, speed in maintaining the equipment has resulted. It is hoped that other fleets can profit from some of our trailer tricks.

END

Please Resume Reading Page 62

Tire Shipments Increase

An increase has been recorded in the number of truck and bus casings with the latest total figures available for the month of May. These are official figures, released from the records of the Rubber Manufacturers Association Inc. They show that in May, there was an increase slightly less than 1 per cent with 1,391,685 casings against 1,383,779 for the previous month. Production of casings showed a larger increase in the truck field, from 1,431,880 casings in April to 1,527,975 in May, for an increase of 6.71 per cent. Inventories totaled 935,459 casings, another increase over the previous month by 18.15 per cent.

ATA To Contest ICC Ruling

The Executive Committee of American Trucking Associations, Inc., has voted to appeal the recent decision of the Interstate Commerce Commission in its regulations governing the lease and interchange of motor vehicles, and has requested its Truck Leasing Committee to carry the matter to the courts, if necessary. It is expected that the ICC will deny any further review and the Leasing Committee will then take the matter to a three-judge court. The Private Carrier Conference is on record as being vigorously opposed to abolition of the trip lease.

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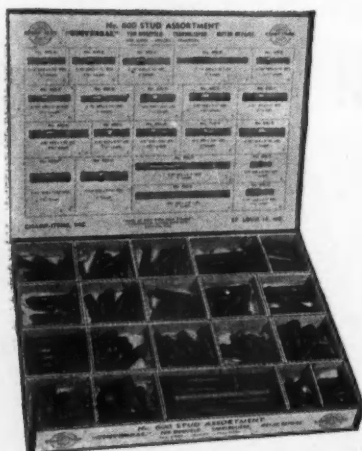
CANADIAN FACTORY: WIX ACCESSORIES CORP. LTD., 11 Wabash Ave., Toronto 3, Ont.

COMMERCIAL CAR JOURNAL, August, 1951

200 SERVICE HELPS



When you have a tough service problem to "lick", check your CHAMP-ITEMS Catalog. There's usually just the answer, to help you "lick" a service problem, among the popular CHAMP-ITEMS line of automotive parts. CHAMP-ITEMS are Time-Savers — Money-Makers — engineered for Easier Service — Better Performance — Driving Safety.



No. 600 STUD ASSORTMENT for Manifold Transmission and Motor Repairs. Assortment contains 126 Studs, 21 different sizes. These studs have U.S.S. and S.A.E. Threads 5/16" to 7/16" diameter and are 1 1/2" to 4" long. Made of high tensile steel heat-treated. List 15¢ each.

More than 200 automotive replacement parts featured in Champ-Items catalog—write on your letterhead for a copy. Every up-to-date shop should have one.

ORDER FROM
YOUR JOBBER



CHAMP-ITEMS, INC.
6191 Maple Ave., St. Louis 14, Mo.

New York Tax

Continued from Page 110

A. The rate of tax is based on the unladen weight of the tractor plus the maximum gross weight of the trailer (the unladen weight of the trailer and the maximum load it is capable of carrying).

Zone Operation Rulings

A VEHICLE loses its exemption for the entire month if it is operated outside the limits of a public service zone, city or village at any time during a calendar month. This is in accordance with a ruling of the State Attorney General.

Under the ruling, the entire month's mileage of the vehicle—both inside and outside the zone, city or village—becomes taxable if the vehicle is operated beyond the limits of its zone, city or village.

Another important ruling by the Attorney General, holding certain interstate operations to be tax exempt, will be of widespread interest to motor carriers. Under this opinion, which will be incorporated by the State Tax Commission in its rules and regulations:

1—Operation of a motor vehicle exclusively (a) within the limits of any commercial zone established by the New York Public Service Commission, or (b) within the incorporated limits of a city or village of New York State, is not subject to the mileage tax if operation outside the limits of the zone, city or village is entirely outside the State of New York.

(EXAMPLE: Trucks pulling into New York City from New Jersey, unloading and reloading, then leaving New York City is exempt from the truck mileage tax but must have the \$5 permit and plate, if its maximum gross weight exceeds 18,000 lb.—ED.)

2—A motor vehicle is not subject to the mileage tax if it enters New York State from outside the state and confines its operations in New York State exclusively (a) within the limits of a zone established by the Public Service Commission, or (b) within the incorporated limits of a city or village.

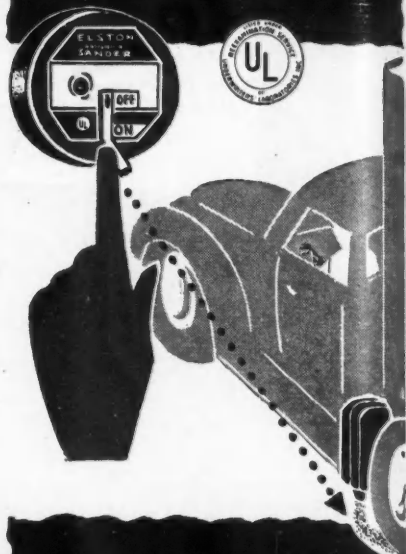
(EXAMPLE: A truck entering one of the PSC zones along the Pennsylvania border—such as Binghamton, Elmira, Jamestown, even though they are not on the border as New York City—would be exempt from the mileage tax but would have to have a permit and plate if in the taxable weight category.—ED.)

Tax Returns and Payments

MONTHLY tax returns must be filed by carriers on Form TMT-3, due the 20th of the month covering operations of the preceding month. Thus, the first return will be due November (TURN TO PAGE 239, PLEASE)

Safer Driving

AT YOUR FINGERTIPS...



...with **HIGHWAY SAFETY**

Elston Electric
SANDERS



Protect

- DRIVERS
- EQUIPMENT
- PAYLOADS
- SCHEDULES



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SAFETY COUNCIL

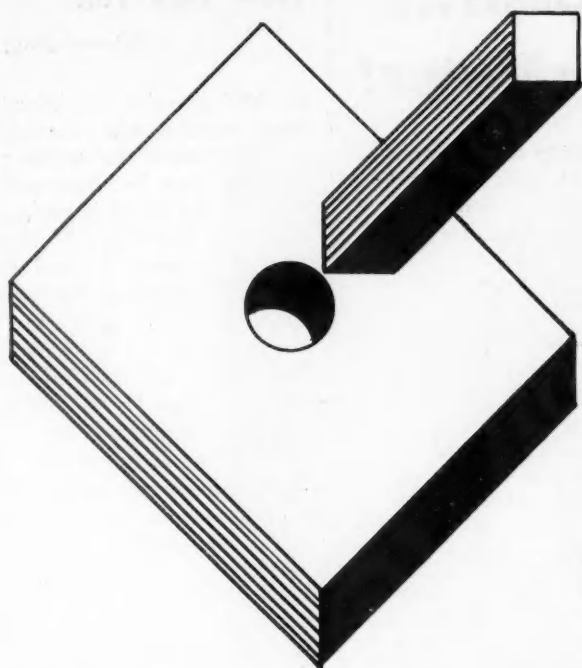
Just press dash-mounted electric control... and presto... Elston SANDERS provide sure traction with safety grit on slippery roads... protect drivers, costly equipment and payloads... reduce accidents, step up road time... the best safety insurance you can buy!

PROPER GRIT IS IMPORTANT!

For best results, use either ELSTON SAFETY GRIT or a comparable grit that is non-freezing, free-flowing. ELSTON SAFETY GRIT is sold in 50 lb moisture-proof bags.



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SAFER SERVICE

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EASIER SERVICE

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CURTISS & SMITH Special Service Tools are available Coast to Coast through Curtiss & Smith Distributors. These fine lines of Special Service Tools have been custom designed and precision built to perform special maintenance jobs.

CURTISS & SMITH manufacture tools for most every maintenance problem on Cummins Diesels, General Motors Diesels, and Gasoline Engines; also special transmission tools, clutch, axle, and wheel and hub, tools.

For further information contact your local distributor, or write direct to CURTISS & SMITH, POTTSTOWN, PENNSYLVANIA.

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Tooling the Industry for over 20 years

Clean Engines and Chassis... More Thoroughly - Faster!

There's a simple, inexpensive way to clean engines and chassis—far superior in every way to the messy job of trying to blast off greasy dirt with a steam gun. And it doesn't involve buying expensive equipment, either. The answer is

MAGNUSOL

For less than \$35 you get enough Concentrated Magnusol to clean 120 engines, plus the Magnus Sprayer you need to apply the cleaner. You simply spray on . . . let soak . . . rinse off with pressure stream of water. No attack on paint or metal. No unpleasant odor or fumes. No fire hazard. No waiting for heat. And a perfect cleaning job to boot!

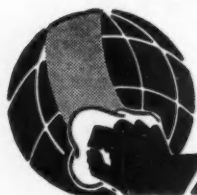
TRIAL OFFER

Send us your order for 15 gallons of Magnusol and the Magnus Sprayer. Your bill will be less than \$35.00, and if you are not satisfied with the job done at the end of 30 days, you'll get the entire amount back.

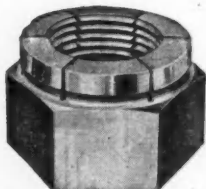
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For Less Than \$35.00
... Enough to clean 120
Engines and Chassis.



MAGNUS
CLEANERS • EQUIPMENT • METHODS



SELF-LOCKING NUTS

Help PTC to

"KEEP 'EM ROLLING"!

Every day thousands of Philadelphians depend on Philadelphia Transportation Company buses. To "keep 'em rolling," PTC's maintenance must be constant and thorough, since minor failures often cause major breakdowns.

For example, the hex nuts on bus rear axle flanges were being loosened by vibration, despite periodic inspections. Sheared studs resulted. Replacements were expensive, disrupted schedules and loss of riders' goodwill even more so. PTC tried FLEXLOC Self-Locking Nuts, found them a simple, economical solution to the problem.

FLEXLOCs stayed tight, eliminated shearing of studs. Yet FLEXLOCs were easy to remove when necessary, could be re-used again and again. Furthermore, FLEXLOC dependability reduced the number of maintenance checks needed, effecting additional savings.



If you have to contend with vibration in your business, try FLEXLOC Self-Locking Nuts—free! Just tell us the size, and we'll gladly send samples.

-SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 5, PENNSYLVANIA

New York Tax

Continued from Page 228

20, 1951, covering October mileage. The tax is payable when the return is due.

Every vehicle for which a permit is obtained must be reported on when the monthly tax return is filed. If a vehicle has been leased for 30 days or less, and the owner obtained the permit, either the owner or the lessee may include the vehicle in the tax return. If the lessee reports and pays the tax, the owner need only file with his return the supplementary Form TMT-4, on which are listed the names and addresses of persons to whom vehicles are leased during the month being reported.

If the carrier is not the owner of a vehicle subject to the tax, both carrier and owner are liable for the tax, and it may be collected from either.

Carriers who operate tractor-trailer combinations may report on the mileage of every combination used during the month or they may, instead, use a simplified optional reporting method which was adopted by the Tax Commission at the request of representatives of the trucking industry.

The optional reporting method is based on trailer mileage. But, if this method is used, the gross weight of the combination is the maximum gross weight of the trailer plus the unladen weight of the heaviest tractor owned by, or leased to, the carrier.

This method will vastly simplify reporting for the larger carriers who have large numbers of tractors and trailers, and use them interchangeably.

Whichever method is used, it must be employed for all of the combinations reported in that return. But the carrier may change from one method to another in any later monthly tax return.

Q. What records must be kept by the carrier?

A. The carrier must keep records which include the following: (1) date of each trip, (2) vehicle numbers, (3) point of origin and destination of each trip, (4) number of round trips each day, (5) miles traveled laden, (6) miles traveled empty and (7) the name of the owner if operating a leased or interchanged vehicle on a temporary basis.

The miles traveled should be computed from speedometer readings, fuel consumption records, maps, mileage schedules or any other accurate method acceptable to the Commission. In order that this information may be substantiated, waybills, bills of lading, invoices and shipping orders shall be maintained.

(TURN TO PAGE 232, PLEASE)



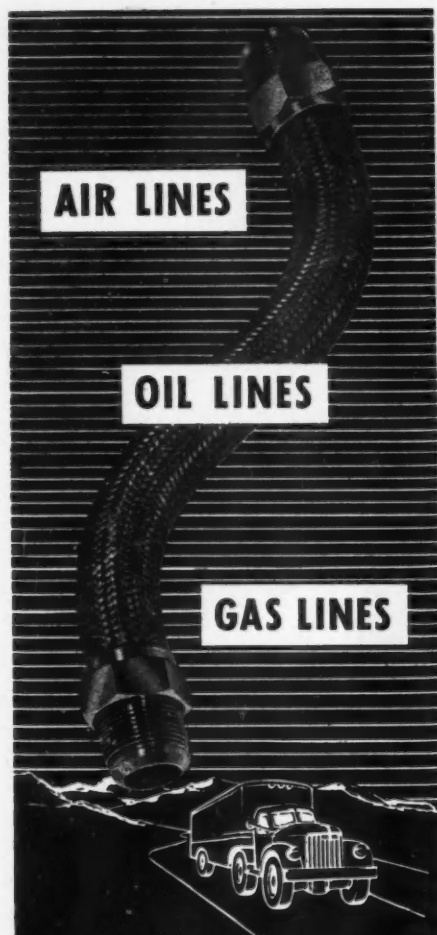
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Trucks, buses, farm equipment and military vehicles generally have low road speed in comparison with their engine temperatures. *Balanced cooling*, through proper radiator design, is essential to good engine performance.

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500 Frelinghuysen Ave., Newark 5, N. J.

Titeflex

ALL-METAL AUTOMOTIVE TUBING

New York Tax

Continued from Page 230

Records must be kept in New York State, unless the Commission grants permission to keep the records without the State. Such permission may be granted, providing the carrier agrees to produce his pertinent records within the State on request for audit, or agrees to pay the expenses of auditing without the State.

Penalties Provided

THE law has strong enforcement provisions. For example, the Tax Commission may suspend or revoke the permits of all vehicles of a carrier because of failure to pay the tax, because of operation of a vehicle with an actual weight greater than its stipulated maximum gross weight, or for any other violation of this law or regulations under it. As applied to carriers whose vehicles are registered outside New York State, this has the same effect as suspension or revocation of the registration plates of domestic New York carriers.

When the highway use permit of a vehicle has been revoked or suspended, the New York Bureau of Motor Vehicles is barred by law from re-registering the vehicle unless the Tax Commission certifies that the carrier has complied. Also, the Motor Vehicle Bureau must revoke New York State registration plates of all vehicles of a carrier who defaults in paying the tax or fails to file a return.

There are cash penalties for failure to pay the tax. Where there is delinquency in filing a return or in paying the tax, the Commission may impose a penalty of 5 per cent of the amount of tax due, plus interest at 1 per cent per month. Where fraud or intent to evade the tax is involved, the penalty is 100 per cent of the amount of tax, plus interest at 1 per cent per month.

There are also criminal penalties. A number of offenses are classified as misdemeanors, with fines up to \$500 and imprisonment for up to ten days for second offenders. Filing of a wilfully false or fraudulent return is classified as a felony.

And besides these penalty provisions, the law stipulates that an unpaid tax constitutes a lien on all of the carrier's vehicles. The lien continues until payment is made or until the vehicles have been sold for recovery of the amount owed.

To enforce the law, the Tax Commission will rely primarily on the operation of weighing stations, on-the-road police checks and periodic audits.

END

Please Resume Reading Page 124

Proper Aircraft Maintenance Repair and Overhaul depend upon Fine Chemical Cleaners and Solvent Products



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see for yourself. Valve-in-head engines that squeeze more power from every drop of gas. Self-energizing brakes for extra stopping power—greater safety. Wide-base wheels for increased tire mileage. These new Chevrolet trucks even offer extra driver comfort—with new cab seats and Ventipanes. But learn all the facts now. See the new Chevrolet Advance-Design trucks at your dealer's today.

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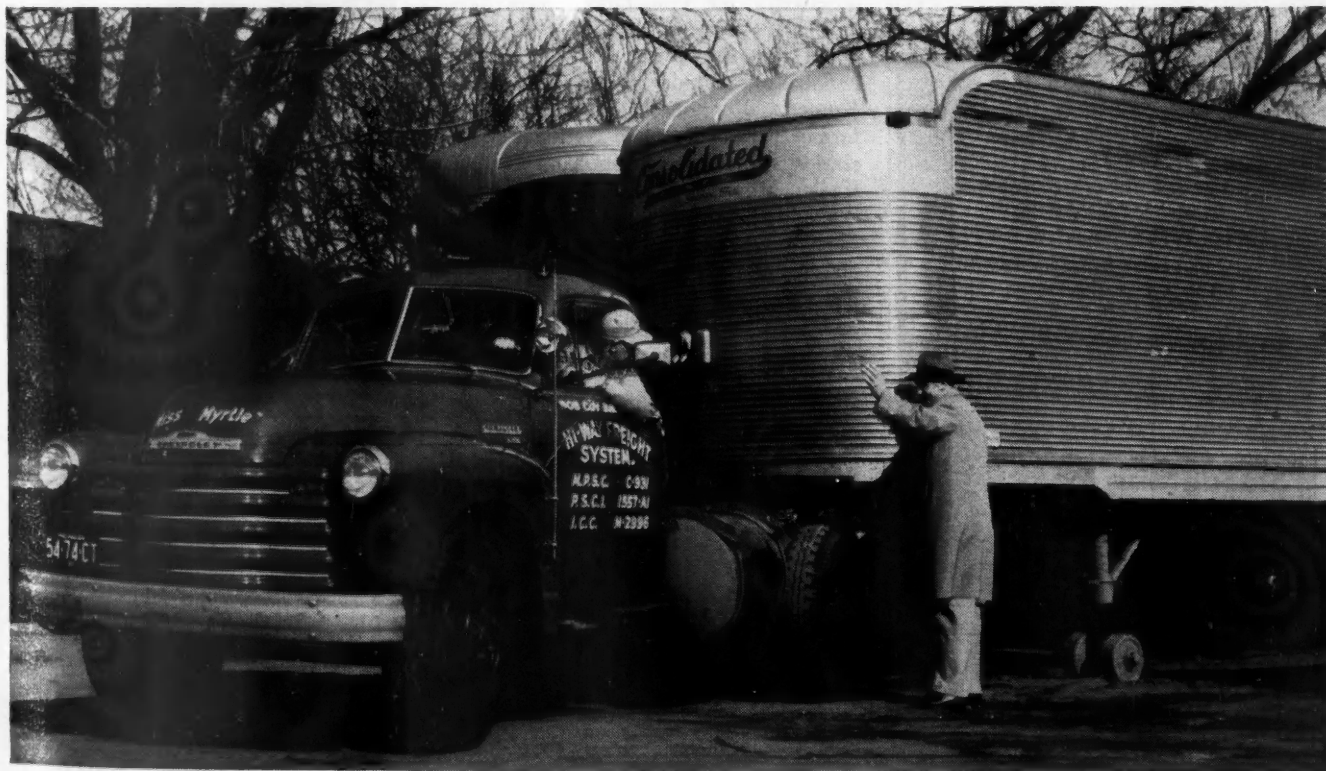


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TWO GREAT VALVE-IN-HEAD ENGINES—the 105-h.p. Loadmaster or the 92-h.p. Thriftmaster—to give you greater power per gallon, lower cost per load • **POWER-JET CARBURETOR** — for smooth, quick acceleration response • **DIAPHRAGM SPRING CLUTCH**—for easy-action engagement • **SYNCHROMESH TRANSMISSIONS** — for fast, smooth

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were born when highway transportation became big business, and through experience and modern engineering practices, are now the safest means of carrying gasoline or diesel fuels.

Snyder Safety Tanks embody the famous "Flame Guard" Safety Valve, and



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Both "V" TYPE and
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hand or power hydraulic control
FOR ALL MOTOR TRUCKS
FROM 1½ to 10 TONS

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Standardize on LIPE Clutches

- for more miles between tear-downs!
- for less wear and tear on the truck!
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- used by America's leading heavy-duty truck manufacturers!



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SYRACUSE 1, N. Y.

CCJ Reports

Continued from Page 99

Mack Gets \$77 Million Order

Orders for U. S. Army military trucks and spare parts totaling \$77,430,000, have been awarded Mack Manufacturing Corp. An original contract for \$25,000,000, which is part of the above total, was awarded Mack in March of this year.

Involved are 6 x 6's, trucks and tractors, together with the spare parts. The manufacturing end of the contract will be performed at the company's New Brunswick, N. J., plant, now devoted wholly to the output of defense products. The assembly work will be done at Mack's Allentown, Pa., plant.

Convention Plans Announced

The 4th Annual Convention and Exhibit of the National Truck Body Manufacturers and Distributors Asso. will be held at Haddon Hall, Atlantic City, N. J., Sept. 24, 25 and 26.

Speakers include Senator Wallace F. Bennett, Republican of Utah and former president of the National Association of Manufacturers, and Dr. Al Haake, Mayor of Park Ridge, Ill., and economist for the General Motors Corp., George R. Davis, assistant director, Automotive Division, N.P.A., and Reuel W. Elton, General Manager, American Trade Association Executives.

(TURN TO PAGE 236, PLEASE)

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FOR HEAVY DUTY
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MOTOR OIL AND LUBES
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RENEW
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install **RAMCO**
PISTON STABILIZERS
on every Re-Ring Job!

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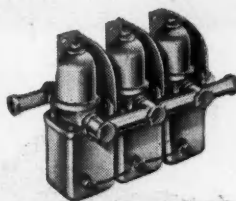
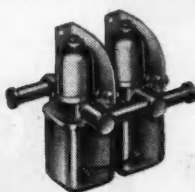


DROP THIS INTO YOUR FILE ON FUEL PUMPS...

The next time you take up the matter of fuel pumps, the information here will doubtless prove convenient.

Features of Autopulse Electric Fuel Pumps...

- 1** You need only a small inventory of Autopulse Pumps because they can be used on every vehicle, car or truck in your fleet.
- 2** Save fuel because they deliver fuel only as needed and at a constant pressure—will never flood or starve the carburetor.
- 3** Can be used with any type of fuel—high octane, aromatic, or any grade below that.
- 4** Not affected by temperature, barometric pressure or humidity.
- 5** Eliminate the necessity for unnecessarily rich mixtures with resulting carbon deposits.
- 6** Provide ample power for heavy grades or in the mud.
- 7** May be used alone as an auxiliary or as a standby unit.
- 8** When used as an auxiliary, Autopulse draws no current except when extra demand requires it to go into action.
- 9** Eliminate ragged acceleration after idling.
- 10** Prevent stalling in traffic.
- 11** Easily and quickly installed—special brackets for that purpose.



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DUMP BODIES

Medium and Heavy Duty

HYDRAULIC HOISTS

For Dump, Grain and
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(with and without trailers)

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CEMENT SPREADERS

For Soil Cement Roads



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CCJ Reports

Continued from Page 234

ICC Shutdown Suspended

A directive has been issued by the Interstate Commerce Commission which gave a new lease on life to six Bureau of Motor Carriers offices. The directive ordered that no Bureau offices in the field or in Washington "be closed at this time."

Government Trucks to Come From Civilian Quotas

An announcement made by the National Production Authority has given a "top level" decision as the reason why trucks being purchased by the Department of Defense will come from each manufacturer's permissible production. The units involved are civilian-type models needed for various government agencies connected with national defense.

The effect of this decision will bear close watching, as some truck manufacturers are continuing to bid on defense purchases of this kind with the reservation that they will not take the orders unless a special allocation of materials, exclusive of civilian allocations, is made. At the time of writing, these bids are not being accepted.

Alger Co. Honored

For the second time in recent months, the George F. Alger Co., Detroit, has received recognition for its record in preventing of claims for over, short and damaged freight. The National Freight Claim Council at its recent meeting in Detroit, made the award. The award included a trophy, presented to T. W. O'Neill, Alger's manager of claims by Edward F. Lacey, executive secretary of the National Industrial Traffic League, one of the judges in the national contest.

END

Please Resume Reading Page 31

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Wiring Joe

AUTOMOTIVE CABLE

Manufactured by

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CHECK THE WIRE
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KEEP DOWN
COST-per-MILE
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Increase tire mileage, cut accident costs! Make or get Bear Tests for Dy-Namic Wheel Balancing, use Bear Alinement, Straightening Equipment; the leaders do! BEAR MFG. CO., Dep't. C-3, Rock Island, Ill. 1736

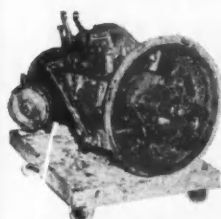
HUNTER Cargo Cooler



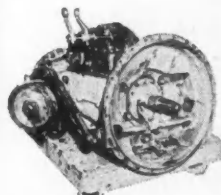
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FREE Booklet 4401 gives details of this and other time-and money-saving Oakite cleaning methods. Ask your nearby Oakite Technical Service Representative. Or write Oakite Products, Inc., 26D Thames St., New York 6, N. Y. No obligation either way.

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On heating costs

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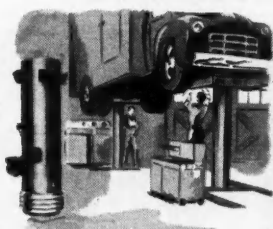
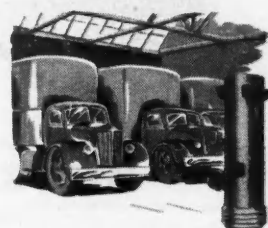
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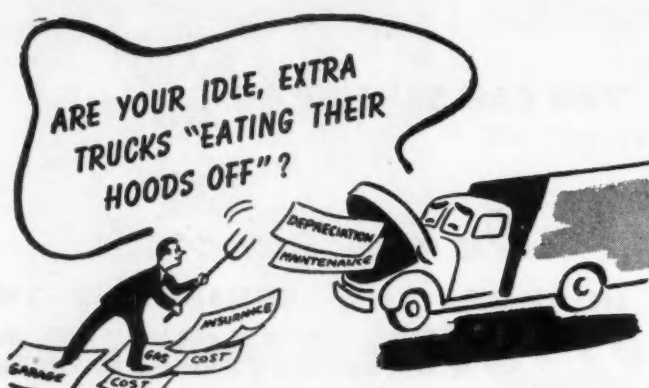
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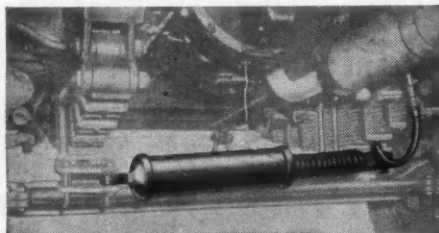
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"The information contained in it each month is so valuable that I file the copies and frequently refer to copies several months old, in order to brush-up on some topic or find the address of one of the advertisers, whose product I need and cannot purchase locally."

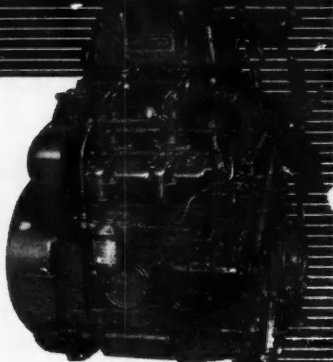
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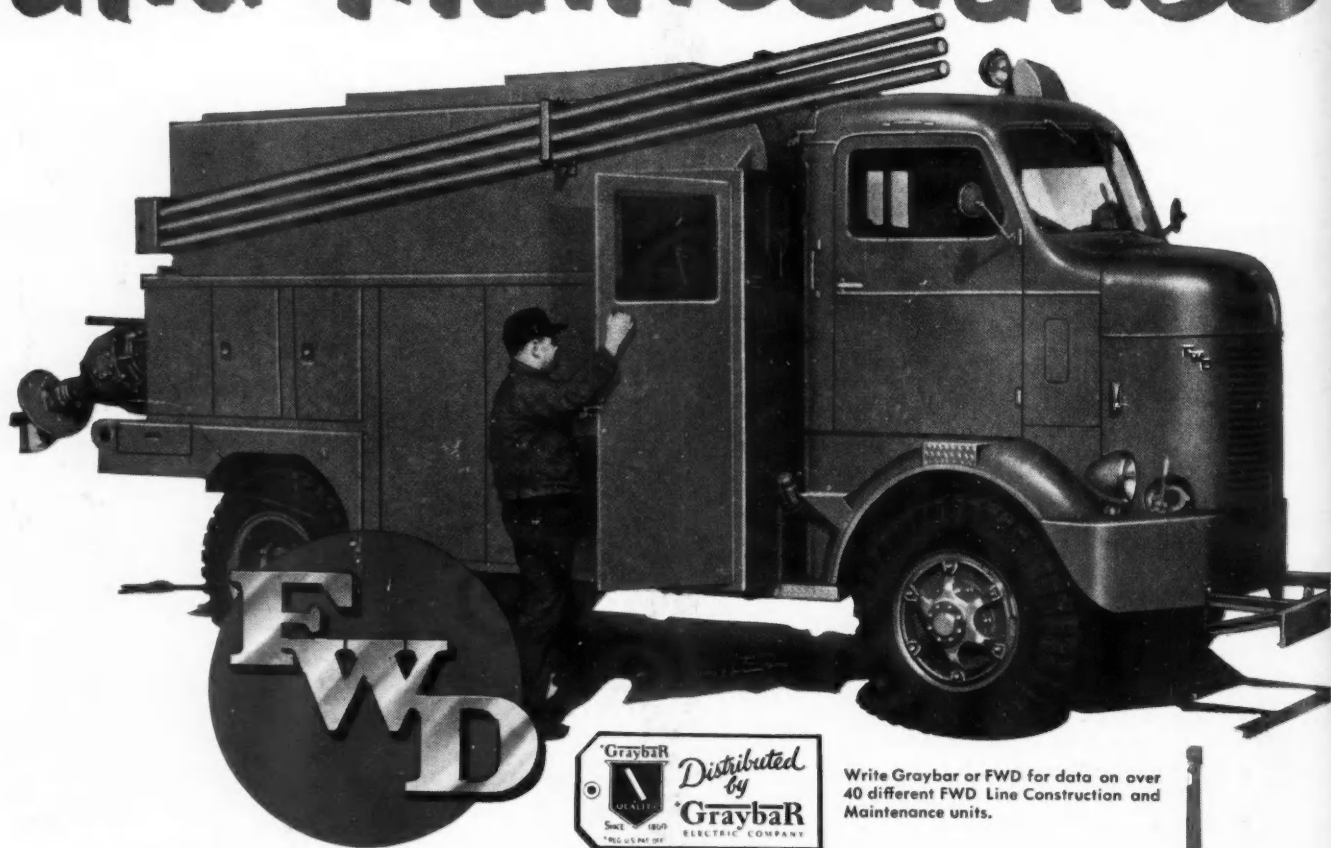
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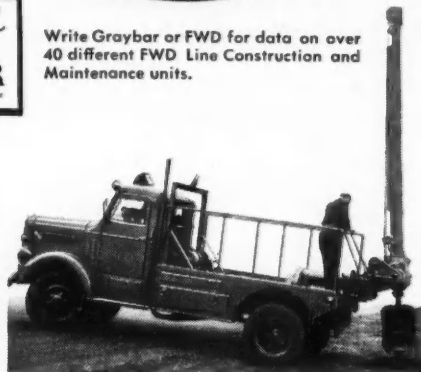
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